

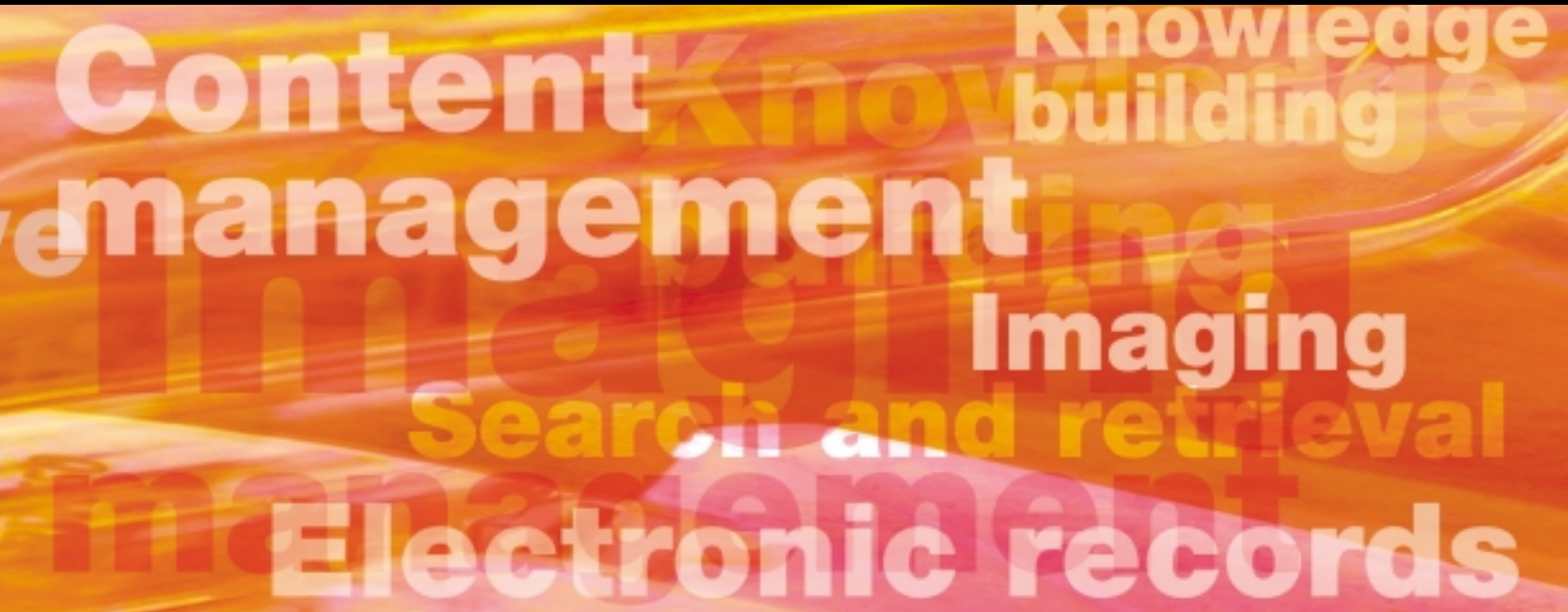
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THE IT REPORT FOR DIRECTORS AND DECISION MAKERS



Workflow, Document &
Business Process Management

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CONSPECTUS

Business process management (BPM) is the buzzword for what is otherwise known as workflow and document management technology.

The idea behind BPM is that more than a name change, it suggests organisations are integrating all of their business processes, instead of just using workflow, document management, records and content management systems to make individual processes more efficient.

The aim is laudable, but the difficulties are that much greater than if single processes are involved.

Against that, our research (page 2) shows that many companies are unhappy with their current mix of software applications and accept that their business processes are subject to constant change. So people are ready for BPM systems that can flexibly automate their processes and 'glue' their enterprise applications together.

Our Management Briefing articles – written for *Conspectus* by the likes of EDS, META, Parity and other specialist consultants – provide insight into how you can get the best from BPM and its individual component technologies.

For *Conspectus* sales enquiries, please contact Meera Butterworth at PMP. Tel: 0870 908 8767. Email: sales@pmp.co.uk.

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Workflow, Document & Business Process Management

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Workflow, Document & Business Process Management

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Throughout this issue we feature profiles of leading vendors of workflow, document management and BPM software. This information, supplied by the companies, has been checked and validated by specialist independent consultancy Impact Plus.

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Companies are struggling to pinpoint the return on investment from business process management systems, says Pat Sweet.

WORKING FASTER AND smarter has become a necessity for companies in recent years. And technologies such as workflow and document management can help cut the corporate paper mountain down to size whilst improving the efficiency of basic operations.

Our latest IT user study (see Survey Statistics box, page 4) suggests this message is getting through, with organisations from a whole range of industries implementing such solutions in the hope of raising service levels without sending costs through the roof.

But this evident enthusiasm for the individual technologies masks the fact that many companies are failing to grasp the full potential of what business process management (BPM) offers.

While point solutions for workflow or document management can tackle specific needs, BPM provides the glue which will bind everything together in an enterprise-wide implementation.

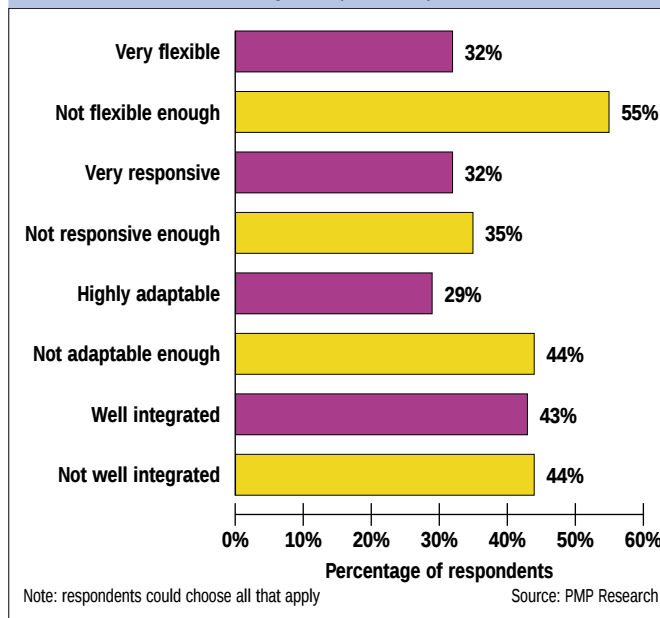
Such an approach can offer much-needed integration for an organisation which has seen disparate applications spring up over the years, but now lacks the cash or methodology to bring it all back together.

Our Expert Opinion article on page 5 examines the pros and cons of this in more detail.

There is little doubt that many companies are seeking to overhaul their current applications. Around half (55%) of our sample report that their existing enterprise IT systems are not sufficiently flexible, while 44% maintain that their systems are neither adaptable enough nor well integrated (see Figure 1).

In contrast, only a third describe their systems as very

FIGURE 1: Nature of existing enterprise IT systems



Unhappy returns?

flexible (32%) or very responsive (32%) and only 29% feel they are highly adaptable.

Companies demonstrate similar worries about the suitability of their current business processes. The big

majority (84%) have made changes in the last two years designed to make their processes more efficient, while 73% have taken steps to integrate different processes internally and 57% have been looking to make processes more

cost-effective. As a result, three-quarters (75%) have funded IT investments in the past two years aimed at making systems more integrated, while 62% have sought to make them more responsive and 59% have tried to improve on the flexibility or adaptability of their systems.

Over the same timeframe, 41% of our sample have implemented workflow or document management applications, while 37% have added content management solutions and a quarter (25%) have opted for a BPM approach (see Figure 2).

Of all these options, document management emerges as the veteran application, with 39% reporting they already have an operational system. More than a third (36%) also have a workflow application in operation and 34% have a content management system.

In contrast, take-up of BPM is slower, with only 12% of the sample already running an operational system. And although 14% are currently implementing BPM, just 5% have a pilot project in hand, which suggests there is unlikely to be a dramatic increase in the number of BPM implementations in the next year or two.

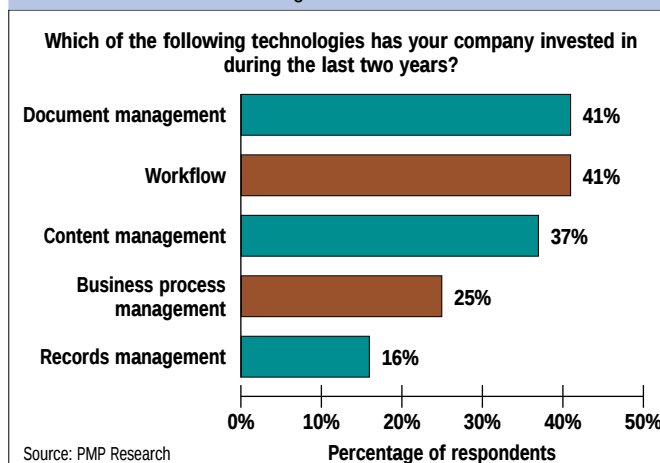
Instead, companies seem to be more inclined to continue spending on document management and workflow.

The already high proportion of companies using document management software looks set to increase, since 14% are currently implementing applications in this area and 20% are running pilots.

Similarly, 9% of our sample are putting in workflow software at the moment, and 16% are giving it a trial.

The two most common drivers for workflow and associated technologies are customer service and/or complaint handling procedures, which are cited by 34% of our respondents, and the processing of online applications and inquiries (32%).

FIGURE 2: Preferred technologies



Organisations are also using these applications in areas such as sales and order fulfilment management (29%) and a variety of *ad hoc* processes including expense claim handling, membership administration, referrals and other claims handling.

Interestingly, some paper-intensive activities have yet to receive much in the way of support – product development (14%), product technical support (9%) and marketing (4%) all come well down the list of areas where workflow or BPM is widely deployed.

Appeal

The key attraction of such technologies lies in their ability to help companies improve their existing working practices.

We asked our sample to rate their reasons for using workflow, document management or BPM software on a scale of 1 to 5, where 1 represents ‘not important’ and 5 stands for ‘very important’.

The aggregated results (Figure 3) show that the number one priority for companies is to introduce greater efficiencies and/or improve productivity (4.33), coupled with the push to improve service (4.18). At the same time, organisations are looking to reduce operational costs (3.80).

Ambitions such as improving corporate agility (3.32), or improving the visibility of processes (3.24) come some way down the list. And two requirements which might have been expected to make an impact in this area barely register with our respondents. Neither the need to meet new compliance regulations (2.88) or the desire to deal with integration issues around legacy systems (2.57) score highly.

Part of the reason may lie in the two biggest problems companies face in using workflow technologies and software. These are the difficulty of integrating with other enterprise applications,

cited by 52%, and the challenge of producing a clear ROI or cost/benefit justification, also mentioned by 52%.

User acceptance (45%) is another issue which comes high on the list of worries, with one respondent drawing attention to the difficulties of “overcoming user familiarity with paper”.

On the other hand, only a third (34%) feel that the need for a change management programme is one reason why workflow is hard to introduce.

And while some respondents say the complexity of many solutions is a key problem, overall our survey findings

suggest vendors should give themselves a pat on the back.

Only a quarter (27%) of companies feel that the software is not flexible enough to support their desired way of working, while just 20% voice fears that user expectations will not be met. And a mere 11% have concerns about poor scalability or other performance issues.

Yet there is enough uncertainty about how to make the most of workflow, document management and BPM technology for companies to seek outside help. Almost half (45%) have used systems integrators or external

consultants on a project to implement such technology.

The most common request for help is with solution design (34%) – which suggests users are finding it hard to navigate through the maze of different technologies – along with systems integration (21%).

There is widespread recognition that these are not applications which can be just installed fresh out-of-the-box.

Interestingly, companies seem more confident about handling some of the preparatory work for a workflow implementation, with external help needed in areas such as defining processes (16%), project management (9%) and changing behaviours (2%).

For those companies who find the idea of a full-blown workflow, document management or BPM system too daunting, there are alternatives.

Getting on for half (45%) of our sample use or have been using messaging products such as Lotus Notes or Microsoft Exchange as the base infrastructure for workflow technologies.

Their reasons for doing so centre on the simplicity of such an approach. For 43%, user familiarity is a key advantage, along with ease of use (30%), cost-effectiveness (29%) and better integration of information sources (25%).

There is also widespread recognition that portals can play a role in reducing complexity and improving the user interface in workflow and related applications. Although only 18% currently use or plan to use portal technology, half (50%) will be considering this option and only 15% have ruled it out completely. The remaining 17% are undecided (see Figure 4).

The big advantage of a portal, of course, is that it offers a gateway into multiple applications without the user having to learn the intricacies of each individual system.

Two-thirds (66%) of our

FIGURE 3: Key reasons for using workflow/DM/BPM

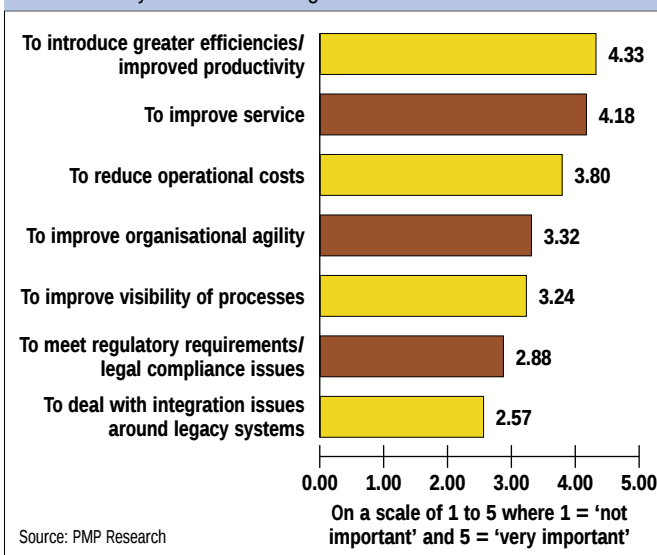
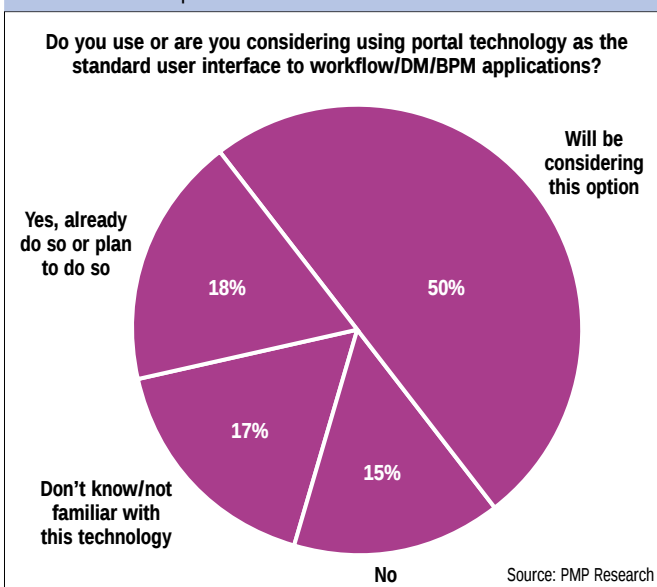


FIGURE 4: Use of portals



respondents acknowledge that having a single user interface is the key advantage of portal technology, along with its ease of use, which is cited by half (50%).

Looking to the future, many companies regard a web interface to workflow, document management and BPM products as essential. Half (50%) would not even consider a product lacking this capability, while a quarter (25%) feel it is required for certain applications.

Internet or web-based applications offer a straightforward way to link into other applications, such as those used by suppliers or supply chain partners. However, only about a third (36%) plan to integrate any of their workflow processes with those of external partners.

In contrast, 21% have no plans to take this course of action, and 27% have not given it any consideration, with 16% unsure.

It is a similar story when it comes to combining workflows with those of others, perhaps as a result of a merger or acquisition. Only 14% have definite ambitions in this area, compared to the 30% who have ruled it out, the 32% for whom it is not yet even up for discussion and the 24% who do

SURVEY STATISTICS

For this survey we spoke to a broad cross-section of companies from sectors as varied as education (6%), energy and utilities (6%), leisure and tourism (4%), transport (2%) and aerospace (2%).

We particularly sought the views of organisations in areas such as manufacturing (18%), the financial services (16%) and the public sector (11%). They have traditionally had to find ways of dealing with large volumes of paperwork and also often face the kinds of regulatory challenges which can be a key driver in the adoption of workflow and document management technologies.

The companies varied in size from the bottom end of the range – with 5% reporting a turnover of under £5 million and 4% falling into the £5 million to £10 million bracket – up to the very largest. A third of our sample (30%) have a turnover of between £150 million and £1 billion, while 7% have turnovers ranging from £1 billion to £5 billion, and 5% top the £5 billion mark.

not know their intentions.

But while progress may have been slow, companies are laying down the foundations for such requirements in the future.

Three-quarters (75%) identify web services as either 'extremely important' (27%) or 'important' (48%) to their developments in the workflow arena (see Figure 5). This is largely because such technology offers a way to link together legacy and external applications, a reason nominated by 48%, combined with flexibility of deployment (46%).

Companies also recognise the importance of industry standards in this area, although support for options such as

BPML or eXML is more muted. Just over half believe such standards are either 'extremely important' (26%) or 'important' (29%), though a quarter (27%) do not have a view on this issue.

Overall, the biggest stumbling block is the difficulty companies face in calculating the return on investment from workflow, document management or BPM technology.

As Figure 6 shows, none of our sample describes this exercise as 'easy' and three-quarters (78%) rate it as either 'fairly hard' (42%) or 'very hard' (36%). Just 13% claim working out the ROI is 'fairly easy', while 9% do not have a view on this.

But without some cast-iron information on the impact these expensive and sometimes disruptive new applications will have on the bottom line, many organisations remain reluctant to go forward in this area.

Indeed, only a third of our sample (35%) claim their implementations have delivered the expected benefits, while one in five (20%) deny this is the case and 37% simply do not know.

Some companies may have failed to develop a convincing case for ROI because they have overlooked a key area where BPM software can make a real difference – solving long-standing application integration issues.

Yet only the brave would embark on an ambitious BPM project without some hope of achieving a decent pay-back.

The challenge over the next few years is for companies to find a way out of this vicious circle by developing detailed plans to use workflow, document management and BPM technologies to their fullest extent.

● *Pat Sweet is the research analyst on Conspectus. If you are interested in this study, please contact Neil Ferguson at PMP Research. Email: neilf@pmpresearch.co.uk.*

FIGURE 5: Importance of web services in workflow/DM/BPM

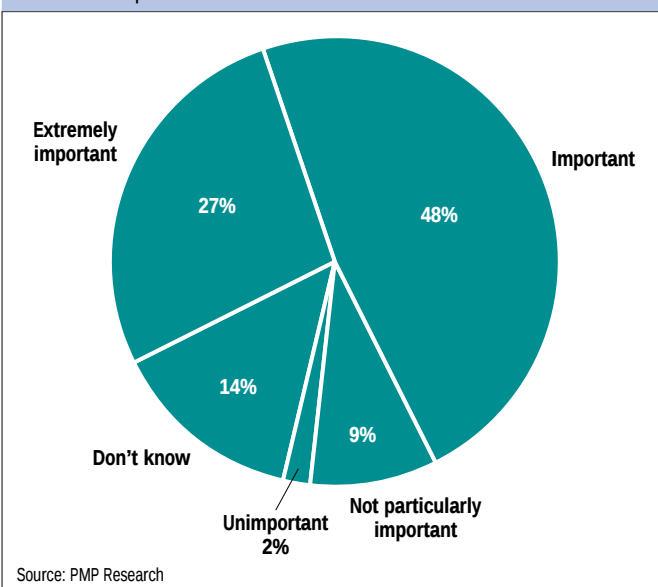
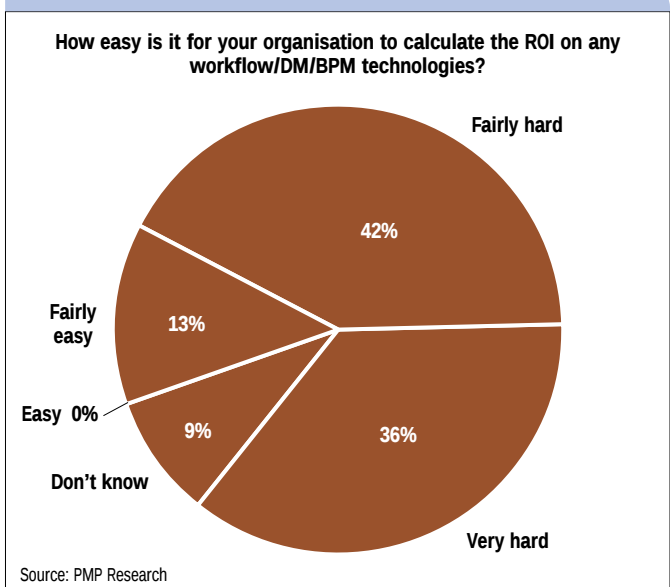


FIGURE 6: Return on investment



EXPERT OPINION: MARK ALLEN of Impact Plus debates whether BPM is just a new type of workflow.

Why is BPM so special?

Whilst workflow has been a component of document management for many years, business process management has recently emerged as a 'new technology' offering significant improvements compared with traditional workflow.

But isn't BPM just workflow by another name? What improvements does it offer, and what are the drivers for BPM at the present time?

To some extent BPM is just a new name for workflow. Traditional workflow products support the automation of business processes via the definition of process steps and the exchange of data between steps – which is something that BPM also provides.

But in one key respect BPM is different. BPM is typically used as a means of integrating existing applications and services and the business processes that operate on these, rather than implementing a single discrete business process. Workflow processes tend to be prescriptive step-by-step definitions, whereas BPM process definitions typically encompass the higher-level business functions involved in a process and the outputs from these functions.

This extrapolation within BPM from the detailed data flows and its ability to view business processes across applications is referred to as 'process orchestration' – contrasting with the 'process automation' offered by traditional workflow products.

BPM does not therefore offer a complete departure from traditional workflow, but rather an important evolution of workflow technology, introducing a more rounded interpretation of real-life business processes and reducing the need for the rigid coding of every process step.

This ability to provide process governance at the organisation-wide level gives BPM a role in application integration – a key driver for its success. Indeed, BPM is often presented as the solution to many of the long-standing architecture problems associated with the proliferation of legacy systems.

Yet such integration can typically only be achieved with the development of application programming interface (API)

'glue' to facilitate the exchange of data between the application and the BPM system. Any claim that BPM can integrate diverse applications 'out-of-the-box' is unlikely to be justified.

Another key driver for BPM is that it offers a basis for improved productivity – for example, by integrating manual and automatic workflows and thus reducing hand-offs and process lag.

BPM can co-ordinate processes across departments and business functions, potentially reducing duplication of effort and inefficiency. In this sense, it offers a means of implementing the 'holy grail' of operational efficiency – straight through processing.

In order to achieve improved productivity, however, some level of

rationalisation of business processes is likely to be needed.

Implementing a straight copy of legacy processes within the BPM system is unlikely to generate benefits.

Many

organisations aspire to operating model flexibility in an effort to respond to rapidly changing markets and consumer demands. The ability to redesign and re-deploy operational processes and systems is therefore critical.

BPM can assist here because of the level of abstraction it offers over the detailed implementation of workflow. The use of flexible process components, which can be re-used within different organisation-wide process definitions, enables companies to rapidly design and deploy different operating models.

Thus, for example, if a decision is taken to outsource a particular process component, a BPM system can be rapidly updated to reflect these changes.

This is possible because the likelihood is that the process components will stay

the same: what will change is the overall orchestration of these components and the routing of the process.

By providing clarification of end-to-end enterprise processes, BPM enables organisations to take a more coherent view of corporate function. With the entire business process exposed to the BPM 'engine', it becomes possible to collate management information across the process and present this in a comprehensive way to answer strategic business questions.

In this way, BPM becomes a mechanism for gaining greater management visibility and control.

Greater visibility across the business process can allow for greater staff accountability. Because a BPM process definition spans manual and system-driven processes, there are potentially no process 'blind spots' where an individual or team's performance cannot be measured.

But if BPM provides more than the limited process automation offered by traditional workflow engines, there is little evidence that the market is exploiting its potential. This may be because of the level of investment required to implement a full BPM system, in terms of process re-engineering, or because of scepticism regarding the benefits.

In any event, implementation will become easier in the future with the increasing use of standard process components which may be invoked by any process execution engine, utilising standards such as BPEL and XML.

The increasing use of web services in this area will also open up the possibilities for orchestration.

But to achieve this there is an investment cost, not least in terms of the effort to stitch together what have traditionally been departmental process definitions into true enterprise-wide representations. In reality, 'pure' end-to-end BPM process implementations are probably still a year or two off.

● *Mark Allen is a principal consultant with Impact Plus. Tel: 020 8977 4655. Email: mark.allen@impactplus.com.*



Mark Allen: role in application integration

BancTec

BancTec is a worldwide systems integration, business process outsourcing and services company. It has over 3,000 staff and more than 5,000 customers across multiple industries in 50 countries.

BancTec is one of the world's largest electronic document management vendors – its systems process over 50 million documents daily.

When delivering workflow and BPM solutions, BancTec turns to Plexus. Founded more than 15 years ago, Plexus, a BancTec-owned company, is recognised as a pioneer in workflow and BPM software. The Plexus network of partners, resellers and OEMs has delivered solutions to a range of industries in over 35 countries.

eFIRST process is a suite of tools for the development and deployment of scalable enterprise process management

solutions. Plexus says it is particularly suited to large, high-transaction business environments.

eFIRST process consists of seven integrated modules:
 ● Process Engine – scalable to support large configurations of users and networks, this has been specifically engineered for intense, high-volume transaction-based processes.

● Process Builder – an environment that models business information and relates it to processes and process steps. It enables companies to develop user interfaces, forms and data objects managed within the solution application.

● Process Analyzer – a process modelling, analysis and simulation tool enabling the business to model and optimise its processes.

● Process Monitor – a real-time business activity monitoring solution providing a visual

COMPANY

Turnover (UK)	£31m
Turnover (W)	\$379m
Profit Before Tax (UK)	£4.5m
Profit Before Tax (W)	\$18m
Number of Employees (UK)	300
Number of Employees (W)	3,100
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

dashboard to help managers identify emerging problems.

● Process Intelligence – a business intelligence tool providing configurable web-based management information reports for statistical analysis of operational performance.

● Process Decision – a business rules engine to help business users document standard process logic and enable automatic 'straight-through

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Website address	www.bancotec.co.uk
User Group Contact/Contact Point	N/A

processing' of work items.

● Process Integrator – a broad array of pre-built adaptors and interfaces to connect processes to legacy and packaged applications.

BancTec supplies end-to-end solutions to a wide range of industry sectors by integrating eFIRST process with clients' legacy systems, as well as other products in the eFIRST portfolio such as eFIRST capture and eFIRST archive.

eFIRST capture provides a single front-end capture platform to automatically scan and process high volumes of documents of any format, including forms, invoices and general correspondence. Electronic documents such as emails, faxes and web forms can also be imported.

The product searches for keywords and other document identifiers to classify each document. It then automatically extracts and processes all relevant text and other document-based information to populate document and content management applications, legacy systems or to distribute the document to the correct contacts via email.

BancTec and Plexus customers include Barclays, Ford Motor Credit, BT, Inland Revenue, UK Police, South West Water, Cisco Systems and US Joint Chiefs of Staff.

PRODUCTS

Name	eFIRST process (formerly FloWare)	eFIRST capture
First installed (year)	2003 (1992 – FloWare)	2002
No. of UK sites/new sites last 12 months	AOR	AOR
No. of World sites/new sites last 12 months	AOR	AOR
Key markets	Banking & finance, government, utilities, telcos, retail, postal services + mailroom processing applications (eFIRST capture)	
Current version – date of release	v2.0 – June 04	v3.4.1 – May 04
Operating systems supported	MS Windows, Linux, AIX, Solaris, HP-UX	Windows 2000, 2003, XP
Software functionality offered:		
Workflow	Yes	Yes
Document management	Yes	Yes
Business process management	Yes	No
Knowledge management	Yes	Yes
Content management	Yes	Yes
Web content management	Yes	No
Electronic records management	Yes	Yes
Imaging	No	Yes
Electronic forms processing	Yes	Yes
Other	N/A	Document recognition, content analysis
Standards supported	XML, J2EE, SOAP + BPMI/WfMC member	XML
Web server standards supported to provide integration capabilities	JSP, Struts, XML, XSLT	Provided by eFIRST process
Does product have its own business intelligence/analytical tools?	Yes	Yes
Does product support third-party business intelligence/analytical software?	Yes – Hyperion, Business Objects, Cognos	Supports all major third-party analytical applications
Special application integration offered/ integration tools supported	Web services support + API for COM and Java + enterprise apps. integration inc. SAP, Oracle, PeopleSoft, Siebel, etc	Provided by eFIRST process

BiT Group

The BiT Group offers a suite of business tools designed to analyse, manage and improve the performance of organisations. Its first product was launched in 1992.

In addition to developing, marketing and selling products, BiT offers a range of services including training, skills transfer, project management and implementation support.

BiT's suite of tools is based on a framework approach and incorporates the ability to analyse an organisation from a number of integrated perspectives, and communicate these perspectives using various diagrammatic approaches. The toolset includes a business process modelling capability and a multi-dimensional mathematical engine.

The specific product supporting BPM is Enterprise Modeller, a framework tool

providing the capability to model, analyse, link and communicate a range of integrated business and process information.

Enterprise Modeller is used to analyse an organisation and its business processes from a number of linked perspectives, including cost, times, process efficiency, IT system support, risks and inter-organisation interfaces.

BiT says the flexibility of the product means it can be used in a number of ways. The product is configured to meet the requirements of an organisation or programme.

Among the common uses of the product:

- Cost management is approached by combining the organisation's view of costs with the process view. This combination provides a picture of where an organisation's costs

COMPANY

Turnover (UK)	N/P
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	10
Number of Employees (W)	10
Software Marketed (UK)	D
End User Support by	D
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

lie and impact analysis for decisions, such as process change, system implementation and outsourcing.

Using the multi-dimensional mathematical engine, cost analysis can be provided to any level of detail, the most common being products, services and business units.

- For process improvement, multiple processes can be modelled and analysed from a number of integrated perspectives including which role performs each part of the process, which systems are used, how long the process takes, how much it costs and the process capacity.

Each of these process views can be multi-dimensional, providing additional insights. For example, for a financial services company the cost of a process may vary depending on the product and channel to market.

- For the implementation of IT systems Enterprise Modeller provides an analysis of how the investment in such systems could deliver improvement from the business perspective.
- Process improvement within a single organisation can offer significant benefits, but a multi-organisation view is often required to produce significant improvement to the end-to-end process. Enterprise Modeller provides the ability to analyse and improve processes across multiple organisations.

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Each of these views is communicated visually, providing a colour-coded overlay for each process. For example, one view can show how each product or service is processed and another the roles involved in the processing.

In addition to the integrated views described above, Enterprise Modeller can integrate a number of other user-defined views, such as risks, competencies and organisation assumptions.

Enterprise Modeller also integrates with workflow products using XML. Having analysed and designed improved processes, it transfers selected information to the workflow development environment – providing a starting position for the development of the workflow system.

In addition to software products, BiT offers a suite of supporting services to organisations using Enterprise Modeller:

- Training – from introductory courses through to specialist workshops.
- Skills transfer – 'one to one' working to impart specialist skills.
- Implementation support – practical support to help deliver business modelling projects.
- Project management – to plan, manage and implement business modelling projects.

PRODUCT

Name	Enterprise Modeller
First installed (year)	1992
No. of UK sites/new sites last 12 months	189 – 9
No. of World sites/new sites last 12 months	198 – 1
Key markets	Business process modelling, continuous improvement, risk analysis, central government, banking & finance
Current version – date of release	v4.2c – Nov 03
Operating systems supported	Windows 98, 2000, NT, XP
Software functionality offered:	
Workflow	No
Document management	No
Business process management	Yes
Knowledge management	Yes
Content management	No
Web content management	No
Electronic records management	No
Imaging	No
Electronic forms processing	No
Other	Business process modelling
Standards supported	XML
Web server standards supported to provide integration capabilities	None
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	None directly
Special application integration offered/ integration tools supported	User-defined interfaces to third-party tools can be built via separated text files and XML

Captiva Software

Founded in 1989, Captiva Software Corporation is a leading provider of input management solutions.

Its award-winning products are used to manage business-critical information held on paper and in faxed and scanned forms and documents into the enterprise.

Captiva recognises that key information must be at immediate disposal. Clients' needs must be served, unimpeded by the delays and the high costs associated with an ongoing 'paper chase'.

Its products automate the processing of billions of forms and documents annually, converting their contents into information that is usable in database, document, content and other information management systems.

The software is used by thousands of users in insurance,

financial services, government, business process outsourcing, direct marketing and other markets.

Based on the time spent entering and validating data, the high downstream cost of incoming errors and demands for instant responsiveness, Captiva's software is designed to provide the missing link required for greater efficiency and competitive advantage.

Even the most modern information systems are not designed with information input in mind.

Captiva claims that its solutions help organisations to:

- Lower operational costs by reducing dependence on manual processes, within the mailroom and throughout the enterprise.
- Increase efficiency in overall workflows by automatically prioritising and routing key information.

COMPANY

Turnover (UK)	N/P
Turnover (W)	\$57m
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	\$3.5m
Number of Employees (UK)	20
Number of Employees (W)	300
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

- Improve accuracy in information flows, and improve the accountability of information systems by initiating high-level reporting and auditing functionalities.
- Enhance back-end systems by speeding up and improving the flow of information into them through system-specific exports which ease integration costs.
- Increase security by capturing hard-copy documents in a single location, and delivering them electronically throughout the organisation.

Products

- InputAccel is an enterprise-level information capture solution that provides businesses with a method of co-ordinating, validating and assimilating incoming documents.

It is designed to offer high-speed functionality in data capture, processing and integration and to improve the integrity of business-critical data by removing opportunities for error.

InputAccel is used by hundreds of companies worldwide to collect and integrate external information into their systems. It turns external data into usable, business-ready content, regardless of its format or point of origin.

It is offered as an enterprise-level solution by Captiva, which also created the industry-

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standard, enterprise-level scanning interface ISIS.

- FormWare. Captiva recognises that forms are the dominant way of doing business: over 80% of all business documents are forms, with more than \$360 billion spent processing forms annually.

Despite these costs, many businesses still rely on a manual process to gather information from forms.

FormWare is a forms processing and data extraction platform that automatically identifies and processes both paper and electronic forms, regardless of their design or point of origin.

- Digital Mailroom. Information rarely if ever arrives 'shrink-wrapped' for the internal workplace: it is usually a mixed bag, with information arriving in numerous formats and from multiple sources.

Captiva's Digital Mailroom solution is designed to automate the information process, creating a virtual 'front door' to enterprise information systems, and providing a single point of entry for all input – incoming paper mail, faxes, email and online communications streams.

Digital Mailroom can automatically recognise and route these documents to the appropriate department or person, and run reporting and auditing capabilities.

PRODUCT

Name	Input Management Solutions
First installed (year)	1989
No. of UK sites/new sites last 12 months	300 plus – AOR
No. of World sites/new sites last 12 months	2,000 plus – 162
Key markets	Insurance, banking, government, business process outsourcing, manufacturing
Current version – date of release	v5.1 – Jan 04
Operating systems supported	Windows NT, XP, 2000, 2003
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	No
Knowledge management	No
Content management	No
Web content management	No
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	Yes
Other	Input management, document/data capture, forms processing, classification
Standards supported	XML, ISIS
Web server standards supported to provide integration capabilities	None
Does product have its own business intelligence/analytical tools?	No
Does product support third-party business intelligence/analytical software?	N/A
Special application integration offered/ integration tools supported	Embedded VBA

Cimage NovaSoft

For more than a decade, Cimage NovaSoft has been providing enterprise content management (ECM) solutions that allow organisations to comply with regulatory requirements.

The company believes that meeting these requirements requires a solution that spans the content management lifecycle, from initial creation through to archival and disposal. Its solution combines business process management, collaboration and content management.

Cimage NovaSoft recognises that rapid business benefit requires more than just technology. As a single-source

provider to specific regulated industries, it offers a solution that combines domain knowledge and best practice with software capabilities.

Its solutions are optimised to the requirements of specific industries through vertical metadata models, business process maps and standard integration tools.

These off-the-shelf templates enable enterprises to roll out an established solution to key business processes with less customisation.

In Q3 2003, Cimage NovaSoft launched its Fusion product suite, a web-based platform for ECM solutions to the regulated industries.

PRODUCT

Name	Cimage NovaSoft
First installed (year)	1990
No. of UK sites/new sites last 12 months	100 – 10
No. of World sites/new sites last 12 months	700 – 50
Key markets	Government – capital projects and infrastructure (ie, rail), medical manufacturing, oil & gas upstream operations, pharmaceutical manufacturing (packaging, labelling, quality control), power generation and transmission
Current version – date of release	e3 v5.11 – April 04
Operating systems supported	Client – Windows NT, 2000, XP, web browser. Server – Windows NT, 2003, Solaris, HP-UX, AIX
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	No
Knowledge management	Yes
Content management	Yes
Web content management	No
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	No
Other	N/A
Standards supported	XML, web services, SOAP, UDDI, SQL
Web server standards supported to provide integration capabilities	.NET, J2EE
Does product have its own business intelligence/analytical tools?	No
Does product support third-party business intelligence/analytical software?	No
Special application integration offered/ integration tools supported	Web services, Windows API Toolkit, database integration, Cimage Framework Link, Office, Outlook, Maximo, Intools, SAP, Explorer, AutoCad, Microstation, Lotus Notes

COMPANY

Turnover (UK)	£5m
Turnover (W)	£10m
Profit Before Tax (UK)	£0.5m
Profit Before Tax (W)	£0.5m
Number of Employees (UK)	55
Number of Employees (W)	100
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

A web services toolkit was released at this time, supporting .NET and J2EE web environments. The company claims Fusion Reference Library, released in Q2 2004, has generated interest from customers and prospects due to its innovative design.

Products

Fusion is a framework for delivering enterprise content management solutions for regulated industries. Cimage NovaSoft says the adage “one size fits all” no longer applies as ECM evolves to become more of an enterprise infrastructure rather than a focused business solution with proven benefits.

Fusion combines both models, providing solutions tuned to the business requirements of specific regulated industries whilst able to replace or utilise existing ECM investments.

It combines document and content management, workflow, collaboration, knowledge and records management into a single integrated web framework.

A web services interface supports web-based integration with popular web application servers and portal environments. A range of web applications are provided, designed to meet the requirements of different regulatory environments and business processes. Fusion therefore offers a range of

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User Group Chairman/Contact Point	AOR

solutions and user interfaces geared around the user's specific business environment.

Cimage NovaSoft has over 700 installations in over 30 countries.

Its customers include aaiPharma Inc, Altana Pharma, AMEC Offshore Services, Ametek Aerospace Products, Applied Materials, BART, BF Goodrich Aerospace, BNFL, BOBST SA, British Energy Generation, BT, BWX Technologies, Cambrex Bio Science Walkersville Inc, Central Arizona Project, ChevronTexaco, Corning Costar, Eli Lilly and Company, Entergy, Enterprise Energy Ireland, Ford, Fujitsu Software Technology, GE Capital Rail Services, Genentech, Gen-Probe, Georgia Gulf, Gillette, Honeywell Aerospace Yeovil, Husky Oil, Hydrocarbon Resources, I/N Tek, John Crane, LEONI Wiring Systems UK, Lifescan, Lockheed Martin, London Underground, Magnox Electric, Marathon Oil Company, Mobil North Sea, Northrop Grummon, Norton Company, Phillips Medical Systems, Powergen UK, Raytheon Aircraft Company, Rockwell Automation, Salt River Project, Sempra Energy, Sumitomo, Suncor Energy, Sunoco, Syntroleum, Talisman Energy (UK), TXU Electric and Wyeth Pharmaceuticals.

View from the top

PROFILE

Company: **Arup Group.**
Interviewee: **Tony Sheehan.**
Job Title: **Group Knowledge Manager.**
The Subject: **Engineering firm Arup has improved its business performance through portal-based knowledge and information management.**

Q: WHAT BUSINESS DRIVERS LED ARUP TO DEVELOP ITS PORTAL SYSTEM?

A: We are a large engineering organisation with about 6,000 to 7,000 people, seeking to differentiate on innovation and creativity – we design projects like the Sydney Opera House and also the ‘wobbly’ bridge in London.

To make that creativity happen, you need good people with information and knowledge at their fingertips. Knowledge is all we sell, it’s fundamental to our business.

Round about 2000, we realised that people in the organisation were getting overloaded with information and we wanted to address that.

We also realised that the way we work has changed, in terms of the immediacy involved. Now, if an email comes in, people have to respond to it immediately – and we have to make sure that people don’t just revert to what they know already, that they pause and refer to the best knowledge available in real time.

Q: WHAT DID YOU DO TO ADDRESS THIS PROBLEM?

A: For us, it wasn’t a matter of ‘great, let’s get a technology solution’ – we spent six months looking at what was right and what was wrong in the business.

I was given free rein by the board to explore what needed

to be improved. We went through an extensive consultation exercise and I wrote a report to the board around the end of 2000. They said ‘right go do it’, and obviously that was when the fun started.

We identified a wealth of things to improve which meant we needed to run a number of global projects.

From the start, we recognised that technology was both the cause of our problems and also the potential solution. Our information overload was all about our intranet and the way it was designed. We wanted to change the way knowledge was retrieved, and we understood that by addressing our information infrastructure we could achieve other goals, such as reducing the stress people

were operating under.

It was really a big juggling exercise, there were 40 or 50 things that needed to be done in terms of improving knowledge and three years on, we have done them all – and more. But we’ve done it in a low-key way, exploiting opportunities to get things done on the back of other initiatives and refocusing some activities to support the knowledge management initiatives.

We always retained a small central knowledge management team of two or three people with the projects delivered by other teams.

Q: HOW DID YOU CHOOSE AN IT SOLUTION?

A: After we got clearance from the board we began looking at intranet technology. In a way all

hell let loose at this point, partly because through the consultation exercise we had raised expectations and also partly because there was suddenly an opportunity for people to make a difference and they wanted to be involved.

There were loads of products out there with loads of functionality, not all of which we wanted. In six to eight months we matured in terms of understanding what we wanted and also the market matured in terms of the products available.

Our key criterion was that we wanted a portal that was simple to use and access and that could access all our existing corporate information which was on more than 20 databases, including Oracle, Exchange and proprietary databases.

We did detailed trials on a number of products and found that Autonomy could do the job.

Q: HOW DOES THE SYSTEM WORK IN PRACTICE?

A: In a nutshell, having a portal onto our sources of information allows us to find the right content, the right people (which is very valuable) and to create ‘on the fly’ links to the content we’re looking at.

That last bit may sound trivial but what we do is when the portal presents information to someone, we get Autonomy to suggest related content.

For example, post 9/11 it would be very easy for a structural engineer to think of a tall building just as a building in terms of design and materials.

But these days the engineer must also communicate to the client an understanding of risk, fire, ease of escape and so on.

Design now is less about individual disciplines. We have

COMPANY FILE

Established in 1946 by Ove Arup, Arup is a firm of consulting engineers working on projects including automobiles, infrastructure, structural engineering, communications consultancy, financial and socially led engineering.

It has 72 offices in 32 countries, and around 7,000 members of staff. Its turnover in 2001/02 was £403 million.

Arup is one of the world’s leading firms of designers, having worked on projects such as London’s Millennium Bridge. It also worked on the structural design of the iconic Sydney Opera House in the 1960s and the development of the route for the Channel Tunnel Rail Link in the 1990s.

In 2000-2002, the firm undertook a comprehensive review of its knowledge assets and as a result developed the Arup Global Intranet Project (AGIP).

a community of structural engineers in Arup but if an engineer is looking up building design, Autonomy will copy the page into the search box and with it present the top five links to that page in real time. It suggests links – which might pick up on that there's something new been produced to do with risks.

People find they get much broader links which encourages networking between the different disciplines.

Q: HAVE YOU EVALUATED THE SUCCESS OF THE PORTAL?

A: The main benefit has been easy access to content, improved speed to find answers. The portal has given us a new user-friendly interface to our legacy systems, which means people are finding the right content while reducing the information overload. It's simple but it gives people a good feeling.

For example, just after we had introduced it, someone emailed me to say they had wanted to bid for a project but their PA had spent four days failing to get the right support information for the bid.

They decided to give this system a go, got the information they needed from Autonomy in half a day – and we won the bid.

As an organisation we are not strong on ROI partly because it's so difficult to quantify. If the feedback is positive from users, then the payback is there. We had a lot of very tangible examples that to turn into ROI would be meaningless. It just worked.

Q: WERE THERE ANY PROBLEMS GETTING THE PORTAL TO INTERFACE WITH YOUR EXISTING DATABASES, SO IT COULD DRAW OUT THE INFORMATION?

A: During the first six months of testing we almost mapped the business – we realised that the portal was a good idea but then had to look at how it would work in practice, the nitty gritty of how the different systems would interact.

PERSONAL FILE



NAME: Tony Sheehan.

BACKGROUND: As Group Knowledge Manager and Associate Director of Arup, Tony is responsible for the development and implementation of the company's global knowledge management strategy. He specialises in cultural change, process management and KM technology.

Beyond Arup, he is involved in KM research projects at a number of universities and business schools and has been appointed as an advisor to the Department of Trade and Industry on selecting suitable construction research and innovation projects in the KM field.

Prior to his current job, Tony worked for 12 years as a senior member of the Arup materials and construction team, providing consultancy to clients on the use of materials in building and civil engineering.

We integrated various legacy systems and, for each integration, we have had to think about how it works. For example, we had a comprehensive projects database, Ovabase, which captured previous project experience. This was getting poor feedback – it wasn't bad but it was a hard system to get into.

We created a better interface but also we needed to integrate a few things alongside it to give people a kind of 'one stop shop' of information. If someone is preparing a bid, they want to look at past projects in Ovabase, but they will also want information from the financial system – did we make a profit or loss in the past? – they might want some data from the image base or some timesheet data.

We had to make those links happen, and for each database the way we presented and retrieved data had to be thought through.

Q: HOW DID THE USERS REACT TO THE NEW SYSTEM, AND WHAT WERE THE TRAINING REQUIREMENTS?

A: A lot of the system was intuitive, deliberately so.

Having consulted with various user groups about what they needed, our brief was always to make it very simple.

We didn't go strong on training. There were lots of help pages available and we embedded some things into existing training courses, but we kept it deliberately low key.

Q: DOES THE SYSTEM SUPPORT YOUR DOCUMENT MANAGEMENT, AS WELL AS KNOWLEDGE AND CONTENT MANAGEMENT?

A: We have a number of different document management systems and Autonomy decides which documents should be shared from each particular system.

All documents or content are branded with one of five 'brands', depending on whether they relate to 'people', 'projects', 'best practice', 'corporate rules' or 'networks' (communities of people in the same role).

By categorising a document in one of these areas, people can find the type of information they are looking for grouped by Autonomy.

They will also know that they can use the document with confidence because it has been validated by one of our experts

within each brand whose role is to check the content.

Q: HAVE THERE BEEN ANY PROBLEMS WITH THE SOFTWARE?

A: Honestly not for us. We always tested it first. We had people customising it for our needs before we introduced it, and it hasn't fallen over.

Q: HAS THE SYSTEM BEEN DEVELOPED SINCE YOU FIRST INTRODUCED IT?

A: We continue to customise it. People are still busy, they are still overloaded and there's a constant need to update the system. We are always saying to Autonomy 'we want to do this or that, what blend of your products can help us?'.

At the moment we're looking fundamentally at the best practice information that we make available. In the past, the *Harvard Business Review* was the source of business best practice but now there are lots of other sources.

We're going through a kind of navel gazing exercise defining what best practice means in this day and age. For us, it's a process of continuous evolution.

Another area we are looking at is how to get people to absorb content. The first phase has been to look at the way people work and the knowledge they need, and pulling together that content.

But there's no point in making content available if people don't use it. The way ahead is to look at how this content can have an impact on people, there's got to be some interest or curiosity and that might involve some work with e-learning systems.

Q: WHAT KEY LESSONS HAS ARUP LEARNT FROM THIS IMPLEMENTATION?

A: You have to think through your business first – think about your people and processes – and then the technology. The acid test of technology in this area is how well it can be customised to support your people and processes, to deliver what you want.

WORKFLOW AND document management software has been around for some time, but business process management is a relatively new concept. And while all these technologies deliver substantial benefits, working out just how to implement any or all of them is a challenging task.

To look more closely at the issues involved, *Conspectus* invited four industry experts to give their views on current trends in this market and to identify where and how such technology can best be used.

We spoke to David Skyrme, director of his own specialist consultancy David Skyrme Associates; Michael Anniss, principal solutions architect with computer services group Xansa; David Scott-Jones, principal consultant with independent firm Cornwell Management Consultancy; and Rory Staunton, managing director of the business consultancy Strategy Partners.

Our panel began by considering the relationship between the more established specialist software and the newer, all-embracing concept of BPM. While applications such as workflow are usually implemented in particular departments within a company, BPM is often seen as a more holistic approach which transcends traditional organisational boundaries.

However, our experts sound a note of caution about how this will work in practice.

Michael Anniss emphasises that it is wise to consider wider business and systems issues, even if the initial intent is to implement a point solution, but also stresses that introducing BPM is not a simple task.

"Many organisations will currently have point solutions in place providing some of the elements of the overall BPM solution," he said. "However, the move to a complete BPM approach requires change and investment orders of magnitude greater than is needed for the implementation of one part of

Workflow workout

Four workflow and BPM experts debate how companies can get the most from this technology. Pat Sweet reports.

the whole picture, so the requirement for point solutions will probably remain. The focus needs to be on using the appropriate level of technology."

This view is echoed by David Skyrme, who believes that "the name of the game is evolution and interoperability within a well-defined but flexible architecture and vision. Even then, most of the innovative and task-specific products come from niche vendors. And often individual department initiatives demand local and adaptive solutions that can be implemented quickly. Therefore well-designed and user-friendly niche products will always have a place."

Annis reckons that, in the longer term, users may come to realise that BPM offers a way to make the whole more than the sum of its separate parts.

"We are seeing a growing trend towards a collaborative approach in exploiting the

strengths of the existing technologies. This in turn may persuade companies to adopt an holistic approach. Where such an approach has been discussed, the integration of workflow components is critical to realise the overall benefits and the management vision," he said.

But David Scott-Jones is firmly of the opinion that few users will be rushing to scrap their legacy systems for an 'holistic' BPM solution just yet – although he agrees this approach has important potential benefits.

"A strength of BPM solutions is crossing existing system boundaries to extract real-time data from other applications to manage the business process. With appropriate standards and process-building tools simple enough for non-IT specialists to use, a good BPM solution puts control in the hands of the business user and takes the overstretched IT department

out of the loop. So there absolutely is a place for point solutions, although no doubt vendors would like to sell fully integrated solutions," Scott-Jones said.

Rory Staunton elaborates on this view, but sounds a note of caution about what exactly is involved. "We have never encountered a user who regards the scope of BPM as a term to cover more than

workflow, process management and application integration. The other components are needed for real-world solutions, as BPM on its own is worthless," he said.

The issue here is how integration is to be achieved successfully. Staunton says the burden for ensuring this happens should fall squarely on the supplier, rather than the buyer.

"The challenge for users is to resist buying standalone best of breed BPM components because the BPM vendor should cover the cost and risk of integration. This should be a major qualifier in new purchases. Users need to examine offers carefully and identify vendors pushing components and being economical with the *actualité*," Staunton said.

Skyrme is another who questions just how close some suppliers are to the nirvana of the fully integrated BPM solution.

In his experience, the overall functionality on offer in some packages is the result of companies acquiring other vendors and products. In these circumstances, it can take several years for the vendor to achieve seamless integration (although the growing use of open standards such as J2EE can speed up the process).

The resulting difficulty of distinguishing between promise and reality is another reason to stick with tried-and-tested single applications.

"Several factors mitigate against taking an holistic view. First, companies may have many different legacy systems whose data and applications need to be migrated to the new environment. Secondly, there are concerns about a 'big bang' all-embracing project that might disrupt current systems and have a high propensity to fail. Perhaps most importantly, the diversity of users' needs often mitigates against a 'one size fits all' solution," Skyrme said.

Often, there are also major



Michael Anniss: appropriate technology

costs associated with opting for the holistic BPM approach. "The work required to systematise documents, records, knowledge and workflow is enormous – and expensive. Nor will all the users need all the modules. However, it is fair to say that there are other benefits of an integrated toolset from a single vendor, and these are increasingly being recognised," Scott-Jones said.

Certainly, many vendors have started down this path, even though they may be having trouble persuading users to follow them immediately. As a result, there has been an upsurge of mergers and acquisitions amongst suppliers in the workflow, document management and BPM arena.

Skyrme sums this up as "the inevitable consequence of Darwinian evolution and market forces in product spaces whose boundaries are constantly changing".

The positive impact of this should be that only the best survive, but the downside is users may be left with systems that have become obsolete and unsupported – a concern voiced by several on our panel.

"There are several impacts on customers: will their preferred vendor still be around in three, five or ten years? Will they be taken over by one of the big boys such as Microsoft or IBM? While that might guarantee continuity, will companies find themselves at the mercy of their development and pricing strategies, and other restrictive practices?" asks Scott-Jones.

Staunton is less exercised by this, as he believes this development is overall "largely positive for users, because it is creating a smaller number of larger players that are safer to buy from, rather than smaller, niche vendors fuelled by dotcom money that are unsafe to buy from".

Annis concedes that the impact for existing users may be disruptive, but suggests there is a lot for future users to gain from this trend because there

will be more commonality of purpose within the BPM market.

"For BPM to become successful, agreed standards must be used for modelling, implementing business process flows and integration with organisational resources. In addition, for the point technologies to play an effective role in the more integrated world of BPM, they need to provide additional capabilities and well-defined interfaces with other technologies. The fewer vendors there are, the greater the chance of investment in the re-positioning of products, their integration capabilities and real consolidation around standards," Annis maintained.

Skyrme reckons it is this process which will be of greatest benefit to end users as they weigh up potential purchases. "The primary requirement is to think less about the long-term viability of



David Scott-Jones: standards gaps

the vendor, and more about how easy it is to extract and migrate the logic, templates and data from the chosen solution. Again, adoption of industry standards such as XML will help future-proofing," he said.

However, while our panel broadly agree with Scott-Jones' assertion that standardisation is "A Good Thing" for both vendors and users, they also maintain it would be a big mistake to assume that all BPM technology can be bought off-the-shelf and plugged straight into the enterprise.

"Companies will need to do lots of implementation work. Today most organisations are deficient in their adherence to standards, the consistency of their corporate business classification scheme and metadata, and the discipline of their knowledge workers' working practices," is how Scott-Jones outlines the problems.

Skyrme is another sceptic about how easily BPM can be introduced.

"It's certainly not 'plug and perform'. Many of these standards are at the very basic levels of message exchange and interoperability. Companies need common schemas and higher-level standards for resource definitions for systems to recognise – for example, that one company's 'customer' is another's 'client'. Furthermore it will be collaborative communities or participants in supply chains where the emphasis on customisation will come. No company is an island," he warned.

Staunton points out that most BPM products at the moment sit at the component level, are sold to IT project managers, and require very significant configuration and extensive customisation. In his view, 'plug and play' is a valid vision, rather than an operational reality, although this may change over the next two years.

In any case, not every company is going to welcome the emergence of standard products. "Commercial organisations need to continually build competitive differentiation into their offering to their customer. The wider effects of standardised systems and business processes may impact on this commercial imperative," Annis said.

He believes the more complex problem is creating standards for the information that is exchanged between products, and for the elements of the business processes that they manage.

The emergence of standards

KEY ISSUES

We asked our four experts to consider the following questions:

- Most vendors now offer BPM systems which integrate separate technologies like workflow, knowledge management, document management and content management. But how many users adopt a similarly holistic approach? Is there still a place for the point solutions?
- There has recently been a lot of merger and takeover activity among vendors in the workflow, document management and BPM area. What is the impact of this, both positive and negative, for users?
- Is the growth in corporate regulation and compliance requirements – such as the requirements of Sarbanes-Oxley and the impending Freedom of Information legislation in the UK – encouraging greater use of BPM technology such as document management?
- With the launch of integrated product lines, plus the use of standards such as XML and web services, BPM technology is increasingly billed as a 'plug and play' choice. Is this correct? How much work do companies need to do to customise their implementations?
- Companies are usually advised to implement technologies such as workflow, document management, KM and BPM in small stages or via pilot projects, in order to reduce risk. But does this limit the chances of an organisation achieving the expected benefits of enterprise-wide BPM? What kind of strategy is appropriate?



David Skyrme: pro pilot projects

such as BPEL, and the standardisation of business process modelling tools to produce BPEL-compliant definitions, provides part of the solution here.

"Each organisation has to define its own internal business processes and the environment in which to manage them. They will often have to create the environment to interact with other organisations. In both cases there will be specific customisable elements that need to be addressed. The more standard the business process, the less the need to customise the application components for that process," Anniss said.

In some areas, the move to BPM technology has been prompted by the need for companies to meet additional regulatory requirements, such as the Sarbanes-Oxley legislation in the US or new Freedom of Information laws in the UK.

Skyrme is in no doubt that compliance requirements are driving greater adoption – especially in the public sector which has not perhaps been as advanced as the commercial world in implementing electronic document and records management systems. However, they are not necessarily a critical driver.

"Even without such requirements, many organisations already understood the business benefits and have well-developed systems with intranet or portal access," Skyrme said.

But for Staunton, regulations and compliance represent the fastest growing segment of the BPM and content management markets in Europe today, which is why software and services in these sectors are still growing, whilst other component technologies such as ERP and CRM are not.

This is likely to continue being the case, if Scott-Jones is right.

"Few organisations are utilising the full capabilities of the technology at the moment – often because their top management has yet to appreciate the potential impact of the new regulations.

Document management is only a small subset of what will be required by Sarbanes-Oxley and Freedom of Information legislation, and many organisations are implementing it in a way that will fall short of what is required," he said.

In particular, Anniss said, while the greater use of document management technology solves some problems going forward, it does not address the historical or ongoing underlying issue of identifying and using base-level business data in the first place.

"A focus on technology components will simply move the wrong data round the business more effectively and not get to the root of the business problem, or indeed open up the opportunity which a greater understanding of the company's lifeblood could provide. By getting the data and data management processes right within a compliance context, businesses can then look to exploit the knock-on CRM benefits this provides," Anniss said.

The final topic our panel debated is the thorny issue of how best to implement BPM technologies. While a pilot project reduces risk, it might also fail to deliver the benefits that only wholesale, enterprise-

level BPM can bring. Yet experts like Skyrme dismiss such fears.

"If proper knowledge management and learning approaches are adopted, companies can learn a lot from pilot projects that will stand them in good stead for a major rollout. But once they have learnt what works best in what situations, they may need to be ambitious in the speed and scale of the rollout to maximise benefits. However, they don't necessarily have to go for 100% coverage. There will always be a tail of diminishing returns, where investments may be better applied to piloting the next innovative solution," Skyrme said.

Scott-Jones is another enthusiast for this approach, arguing that pilot projects are extremely valuable as a way of testing the 'fit' of the product and assessing the organisation's ability to implement and use it.

"The pilot project should validate estimates of the time and effort required, test procedures and training provision, and provide a demonstrator platform for management and other staff not directly involved in the programme. And by reducing the probability of the project failing it should enhance the chances of realising the expected benefits," he said.

In addition, a successful pilot gives senior management the confidence to use the system organisation-wide. This is critical, because some projects fail because of poor take-up rather than poor technology, making a high-level mandate important for acceptance.

A quick implementation in small pieces, rather than a 'big bang' requiring years of work will also keep interest levels high – although there may be obstacles to doing this, as Scott-Jones acknowledges.

"For example, you can deliver workflows sequentially rather than re-engineering many processes at once.

Unfortunately other aspects of BPM don't lend themselves to this – you can't deliver half an electronic records management system, and even a pilot system requires as much preparation as a complete rollout," he conceded.

And as Anniss points out, moving to 'full-strength' BPM will force many organisations to change the way they understand, define, run and manage their business processes. As a result, many will face dilemmas about the level of differentiation, cost, complexity and ROI involved.

"Companies need to position their business and technology change clearly in terms of their business performance implications and ensure that any technology used is very clearly justified and provides a clear contribution to the business performance," Anniss said.

Staunton agrees that any strategy to realise ROI in BPM depends on identifying the operational metrics that define success before the project starts, rather than concentrating on technical measures like the number or speed of processes.

But for those organisations who understand the implications of BPM and the way in which the market is developing, there are substantial prizes to be gained by those who take the initiative.



Rory Staunton: operational metrics

DST International

DST International (DSTi) provides a range of investment management and work management software solutions and related services to 600 clients in 55 countries.

DSTi has 16 offices and over 1,300 professionals and is part of DST Systems, a NYSE-listed company with revenues of more than \$2.4 billion and a record of continuous profitability since it was established in 1969.

DSTi's HiBPM business process management solution enables businesses to define, automate, integrate and monitor business processes.

It is designed to transform the way business operates, offering benefits in productivity, efficiency, cost control and compliance.

HiBPM is a suite of established, scalable solutions and tools encompassing workflow, object repository,

document management, straight-through automation, compliance and other components that integrate with an organisation's existing systems.

DSTi uses these solutions in its own core business, and says that robustness in production and costs of ownership are therefore critical for the success of HiBPM.

The company provides its own consultancy resources to offer integrated products and services, with over 90 EMEA-based staff working in HiBPM implementation and support. It also markets HiBPM through strategic partners and sells HiBPM on a licence or service-based model.

HiBPM combines integral capture services and workflow facilities with the scalable AWD solution, providing graphical workflow tools, user skills and

COMPANY

Turnover (UK)	AOR
Turnover (W)	AOR
Profit Before Tax (UK)	AOR
Profit Before Tax (W)	AOR
Number of Employees (UK)	650
Number of Employees (W)	1,300+
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

availability profiling, and business process monitoring tools.

AWD offers a data-driven design enabling the business, not technicians, to make continuous improvements. The software is open and modular, and uses its own middleware or others to integrate with existing business applications, office products, groupware, etc.

AWD encompasses process automation in a variety of areas, including:

- Content management.

Companies use the integrated AWD capture suite to capture paper, fax, email, text, data and other information types, in order to build a repository of information for subsequent delivery and retrieval through the process management module.

- Process management. From initial capture, AWD guides business users through the rules-based process, according to task priority and the skills and availability of the user.

- Task management. AWD provides GUI tools to simplify the definition of business rules, allowing best practice/compliance elements to become entrenched in the business process and enabling users to embed and demonstrate process transparency.

- Contact management. AWD includes a module for workflow-enabled customer contact centres, providing a

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single view of the customer from initial contact to completed work.

- Process monitoring. The business intelligence functionality, which includes a quality subsystem, helps managers understand the state of the business and gives them tools to implement change.

- Process automation. This is achieved through straight-through processors that can automate activity, without human interaction, to offer productivity improvements, particularly as a service fulfilment engine. Automation can cover a complete process; it can also take on routine preparation or follow-up tasks, to remove repetitive activities from knowledge workers.

Market focus

DSTi has supplied BPM solutions to over 300 organisations with over 100,000 users worldwide.

UK clients include Lloyds TSB, Friends Provident, Legal & General, Aegon, C&G, Scottish Widows, IFDS, Standard Life, Kent Reliance BS, Abbey National, Scottish Life and Unisys Insurance Services. Many of these implementations involve complex processes over multiple sites, and AWD is fundamental to DST's own BPO service centres worldwide.

PRODUCT

Name	HiBPM
First installed (year)	1989
No. of UK sites/new sites last 12 months	70 plus – N/A
No. of World sites/new sites last 12 months	300 plus – N/A
Key markets	Financial services, legal, utilities, government, telcos
Current version – date of release	v3.1 – 2003
Operating systems supported	Windows NT, 2000, XP, IBM OS/400, Sun Solaris, Linux
<i>Software functionality offered:</i>	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	No
Content management	Yes
Web content management	No
Electronic records management	No
Imaging	Yes
Electronic forms processing	Yes
Other	N/A
Standards supported	XML, WfMC, BMPI
Web server standards supported to provide integration capabilities	.NET, J2EE
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Yes – Business Objects
Special application integration offered/ integration tools supported	Integration toolkit/expertise provided; standard thick/browser desktops or custom-built using Developer's Toolkit

eiStream

eiStream is a global leader in providing business process management technology.

Its imaging and workflow products and services are used by more than 4,000 customer sites in 134 countries.

eiStream offers scalable, enterprise-wide work management solutions. It pioneered workflow and imaging solutions more than a decade ago and aims to continue this innovative approach.

eiStream is a privately owned company and has been consistently profitable since it was founded, with 20% of revenues reinvested in research and development.

More than 1 million eiStream licences are in use worldwide.

Companies use eiStream to streamline the flow and management of information,

with the aim of reducing process cycle times and enhancing quality and accountability. eiStream's scalable production workflow and document management systems, coupled with its system integration and distributed computing capabilities, enable organisations to automate processes in their entirety.

eiStream offers a customised service portfolio, the Investment Protection Programme (IPP).

IPP takes a proactive support stance to ensuring that systems – and the companies using them – remain productive.

Customers have direct access to eiStream through a dedicated team, including technical specialists. This is designed to provide predictable, proactive maintenance and accessible expert assistance, supporting customers in establishing

COMPANY

Turnover (UK)	N/P
Turnover (W)	\$80m+
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	15
Number of Employees (W)	400
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

efficient production and offering insight into ongoing costs.

eiStream Enterprise 9 provides a combination of product capabilities and architecture, augmented with a deployment methodology for continuous improvement.

It offers three major product features, specifically developed for business process management:

- Start to end processing – this enables the software to interact and integrate with a company's people, processes, systems and information.

With Start to End Processing, eiStream Enterprise 9 can manage the lifecycle of business processes, spanning enterprise boundaries if necessary.

- Goal management – enables users to define and embed business goal objectives in their operational processes and manage service level commitments.

- Business activity monitoring – enables managers to monitor process performance and spot emerging trends and improvement opportunities based on the process feedback.

Working in concert with eiStream Enterprise 9's product capabilities is its architecture. eiStream Enterprise 9 supports a diverse combination of technologies and platforms, allowing users to develop broad, distributed enterprise solutions.

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eiStream says the product scales rapidly and cost-effectively through its multi-platform service-oriented architecture.

It can also be integrated with other enterprise systems using standards-based internet technologies and a variety of other alternatives for system integration.

Enterprise 9's deployment methodology completes the offering, with a roadmap for implementation and long-term continuous improvement.

It helps users to transform their processes and deploy new processes without business interruption.

Enterprise 9's components consist of:

- Domain services – manage the back-end infrastructure that delivers Enterprise 9's capabilities.

- System interfaces – used to develop custom client applications and integrate with other application servers and enterprise systems.

- Administration tools – configure the domain services and provide system utilities for managing live environments.

- Design tools – used to configure and design business process maps.

- Business process maps – composed of process definitions that manage how work is routed throughout an enterprise.

PRODUCT

Name	eiStream Enterprise 9
First installed (year)	1990
No. of UK sites/new sites last 12 months	67 – 6
No. of World sites/new sites last 12 months	5,000 – 25
Key markets	Financial services (banking & insurance), government, cross-industry (healthcare, retail, legal, utilities, etc)
Current version – date of release	eiStream Enterprise 9 – 2004
Operating systems supported	J2EE, .NET, Windows
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	Yes
Content management	Yes
Web content management	No
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	Yes
Other	N/A
Standards supported	N/A
Web server standards supported to provide integration capabilities	.NET, J2EE
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Can be integrated with range of third-party BI products
Special application integration offered/ integration tools supported	Can be integrated with key applications (PeopleSoft, SAP, Siebel, Oracle) and systems (IBM MQSeries, MSMQ, web services, LDAP, SMTP/Mail)

FileNet/Oceanus

Every day organisations need to make business-critical decisions: claims need to be paid, mortgage applications processed, regulatory compliance terms met, contracts signed and tasks completed.

Key decisions affect the quality of service an organisation provides. They determine the efficiency of operations and the speed with which new business opportunities can be addressed, as well as driving profitability.

FileNet and Oceanus help organisations improve decision-making by enabling them to meet their organisational goals through the management of the work and content that drives their businesses.

Oceanus provides solutions and services that are designed to offer a quick and low-risk method of accessing FileNet business process and enterprise content management technology.

Oceanus offers this capability through two main areas:

- Enterprise interaction management (EIM), a configurable case and interaction management solution that can be applied to a number of different business areas. With standard software, pre-built business solution configurations, user configurability and 8-12 week implementations, Oceanus states that its EIM solutions start delivering benefit in rapid timescales and adapt to changing business requirements.
- Environment management (EM). This range of products and services offers the proactive and reactive management of EIM and FileNet environments.

Oceanus EIM is a work and content management layer that enhances organisations' core systems by linking them with case, process and content management.

It offers the delivery,

COMPANY

Turnover (UK)	N/P
Turnover (W)	\$365m
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	65
Number of Employees (W)	1,700
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

management and monitoring of interactions (letters, emails, faxes, SMS text, etc) between the people and/or systems involved in business processes, whatever the location, method or channel of communication.

Through a 'configuration-not-programming' deployment model, Oceanus EIM solutions help companies deploy systems more rapidly, with adaptability and control placed in the hands of business users.

The solutions are scalable and can be deployed as point solutions or span multiple business areas to create a linked environment. They offer the 'big picture' of work visibility and control with real-time analysis, reporting and work direction.

There are three technologies required to support this enhanced business operating model: case management, enterprise content management (ECM) and business process management (BPM).

FileNet's ECM solutions enable organisations and government agencies to streamline and automate their processes, connect their business systems, and access and manage all forms of content.

They offer a range of capabilities that integrate with existing information systems.

FileNet's solutions include Business Process Manager, Records Manager, Web Content

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Manager, Forms Manager, Image Manager, Content/Document Manager and Team Collaboration.

They are used by more than 4,000 organisations worldwide.

Oceanus' environment management products and services help to ensure that organisations' FileNet-based environments are managed efficiently.

Its main services are:

- Monitor – unburdening local FileNet system administrators.
- Assistance – reducing the need for local FileNet system administrators.
- Manager – removing the need for local FileNet system administrators.
- Starter – ensuring new systems are set up correctly.

Oceanus' latest EM active monitoring and reporting product helps organisations reduce the amount of effort required to manage and maintain FileNet-based environments whilst improving system knowledge, uptime and capacity planning.

Established in 1986, Oceanus is a FileNet-certified partner with a customer base including Alliance & Leicester, Mellon Bank, Standard Bank, Vodafone, O2 and Cumberland Building Society.

PRODUCT

Name	FileNet BPM/Oceanus EIM
First installed (year)	1984/2000
No. of UK sites/new sites last 12 months	98/12 – N/A
No. of World sites/new sites last 12 months	2,600 – N/A
Key markets	Finance, insurance, government, manufacturing, utilities
Current version – date of release	v2/v2.9 – Dec 03
Operating systems supported	Microsoft Windows 2000, Sun Solaris
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	Yes
Content management	Yes
Web content management	Yes
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	Yes
Other	Case management
Standards supported	XML, J2EE
Web server standards supported to provide integration capabilities	.NET, J2EE
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Yes – Cognos, Business Objects, Microsoft
Special application integration offered/ integration tools supported	EAI connector

AMTEC's Malcolm Beach says electronic document and records management is more than a passing fad.

Here to stay

THE MODERNISING

Government initiative – whose deadline of 2005 is fast approaching – has forced public sector organisations to address their management of electronic records, and many have elected to include both document and records management functionality in the scope of their projects.

But mention electronic document and records management (EDRM) to many commercial companies and you will get either a blank look or a yawn.

As with many innovations, the hype and promises of EDRM have not been matched by reality and experience.

The paperless office has not materialised and organisations are still struggling with their paper management. Seldom has EDRM been regarded as the document and records management silver bullet.

But can the private sector just ignore EDRM? Is it going to follow the fate of CASE (computer aided software engineering) which promised much, had wide publicity and take-up, and ended up as shelfware in many organisations? Or is EDRM something that organisations still need to seriously consider?

In first analysing what EDRM encompasses, Figure 1 highlights the key areas involved in managing electronic information effectively.

Clearly, records management and document management are two distinct areas. They can be addressed in isolation and many organisations have done so, implementing solutions for one or the other. However, there is often value in tackling the two together or as part of a wider programme of work that may include workflow, content

management and knowledge management.

As with most electronically enabled change, EDRM is not just about implementing technology but about changing ways of working (policies, processes and culture), supported by technologies to improve the management of an organisation's documents and records.

EDRM encompasses the capture, storage and retrieval of documents and records, potentially both paper and electronic, including workflow, content and knowledge management.

Reasons to invest

The case for continuing to address EDRM is stronger than the reasons for ignoring it, for the following key reasons:

- Growth in electronic documents and records.

No-one needs to be persuaded that the volume of electronic documents and records, especially emails, is growing rapidly.

Most information generated by an organisation appears electronically. Most information received by organisations is electronic or is obtainable in electronic format. Email systems are overloaded with messages, not all of which are spam or irrelevant.

It is estimated that 90% of an organisation's information exists in unstructured form, with only 10% being managed within application systems.

Information is being kept in electronic format rather than paper and to maximise the benefit, organisations must have systems and processes to manage this information.

EDRM can help a company ensure it does not drown under the volume of this data by

organising information into logical groupings, providing powerful search capabilities to find relevant information, and ensuring that information is deleted once its business need has past.

- Ongoing access to information.

Paper is widely used as a medium for long-term storage. Provided the physical paper is kept in good conditions, it is readable for many years. Take a trip to The National Archives in Kew and you can view the original Domesday books, which are over 900 years old.

However, without careful planning and processes, it is very easy to store electronic information and then be unable to retrieve it. Sixteen years after it was created, the £2.5 million BBC Domesday Project achieved the unexpected and unwelcome status of being unreadable. Much effort was involved in finally making the information accessible.

How many organisations have electronic records stored on magnetic tapes, created by systems that were replaced a number of years ago? Part of an EDRM project involves assessing and planning for continued access to electronic records.

Without this planning the information becomes unavailable, and therefore worthless.

- Compliance with legislation and regulations.

All organisations work within regulations and legal requirements. Some of these are sector specific – such as financial, pharmaceutical or public – others tend to span all sectors, such as the requirement to keep financial records for at least seven years.

Many of these rules and

regulations relate to information. Some legislation specifically addresses the requirement to effectively manage electronic information, such as the National Archives target for government organisations to implement an EDRMS by 2004. The private sector is also facing compliance requirements with the Sarbanes-Oxley Act being prominent in the past year. Basel II is another requirement that focuses on financial sector organisations.

With much content being held in electronic format, it is imperative that organisations are able to manage their information in a manner that complies with requirements.

The implications for organisations that do not comply with regulations and legislation can be enormous. In 2002, British American Tobacco (BAT) destroyed documents that were relevant to a court case. Because of this the judge threw out BAT's defence. As a result, BAT share prices dropped 5%.

● Business benefits.

EDRM not only allows

organisations to mitigate risks and comply with external requirements, it also provides direct benefits including:

- easier and better sharing of information across the organisation.
- more effective retention of corporate memory.
- easier control of versions of documents.
- sound and comprehensive audit trails.

The fact that organisations addressing EDRM must also consider cultural and business dimensions, encourages companies to review and improve the policies and processes that support effective information sharing and management.

Even if an organisation decides not to implement full technology-driven EDRMS, by upgrading its policies, processes and overarching systems it will gain tangible benefits in terms of access, effective management and reducing the costs associated with information management.

● Basis for other functions.

As Figure 1 shows, EDRM is

part of a wider set of functions that affect the effectiveness of an organisation's information management.

Probably the most closely related are workflow, content management and knowledge management, which while building on a largely behavioural foundation, have a strong dependency on information being effectively managed and easily retrievable.

When an organisation considers EDRM, it should also assess the interfaces with other areas and whether these carry value or are likely to have an adverse effect.

EDRM can underpin and support many other areas, such as providing a controlled repository of information for knowledge management products to interrogate.

As an example, whilst working with one client it became obvious that extending the scope of the solution beyond strict EDRM would help them respond to queries.

A simple workflow solution combined with scanning incoming mail reduced the

amount of paper flow down from 20 copies to a single paper original, cutting the amount of paper stored and helping speed up the process of responding to queries.

Conclusion

Has EDRM had its day? Quite the opposite.

The reality of business life is that electronic documents and records are here to stay, at least for the foreseeable future. Every email is a record, every file a source of information that carries a cost. Organisations shy away from the challenge, but they must accept the need to effectively manage their electronic documents.

Some continue to print and file in hard copy. Others use standard network storage and others implement EDRM systems.

Whatever the approach, the business driver is still the same – to control and manage the information in a cost-effective way. This means that EDRM will not disappear off the horizon of organisational projects.

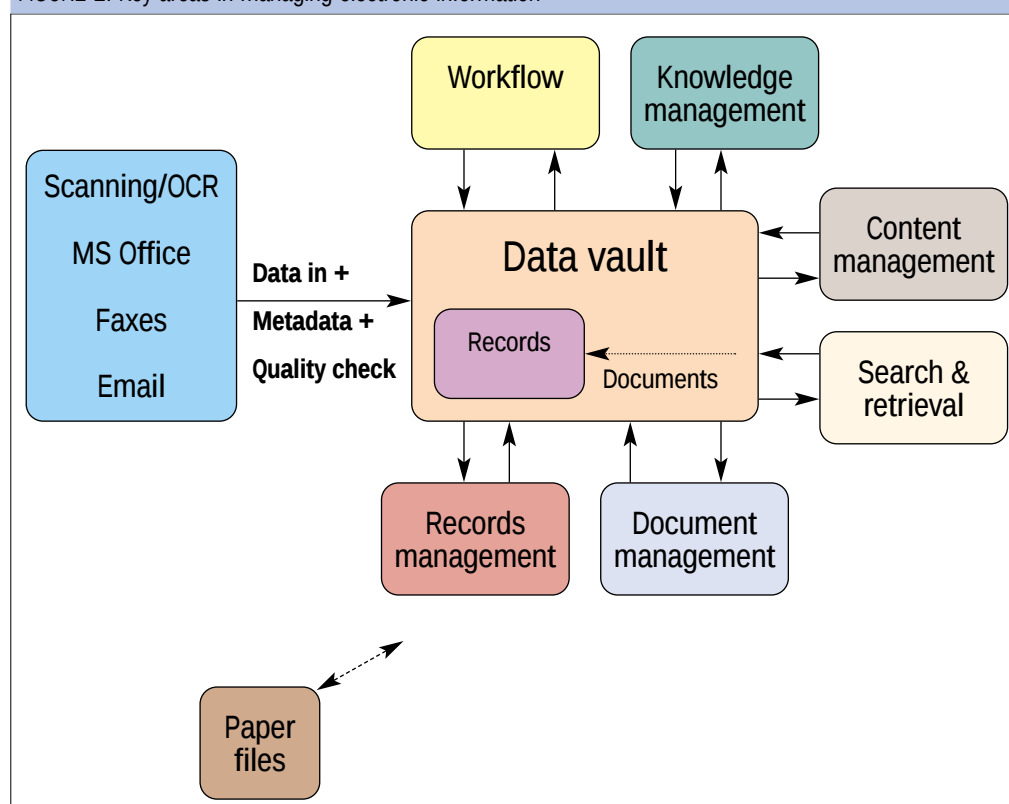
Even when the Modernising Government timescales pass, government organisations will still need to manage their electronic records, both for business efficiency and to meet legislative requirements (such as the Freedom of Information Act).

Private sector organisations also face compliance requirements that will force them to demonstrate effective management of their electronic information (such as Sarbanes-Oxley).

There will always be pressure to manage information more effectively, and with increasing volumes and dependency on electronic documents and records, EDRM is with us for the long run.

● *Malcolm Beach is a senior consultant specialising in EDRM at AMTEC Consulting. Tel: 01252 737866. Email: malcolm.beach@amtec.co.uk.*

FIGURE 1: Key areas in managing electronic information



Organisations have not yet taken content management to the next 'enterprise' level, says Jeffrey Mann of META Group.

Challenge still

MOST LARGE organisations have been investing in various disconnected content management technologies during the past few years.

Efforts to improve web content management have been especially noticeable over the last 18-24 months, as organisations try to tame the chaos behind their public internet and internal intranet sites.

More recently, regulatory concerns have reawakened interest in records management, archiving and document management.

In addition, organisations seeking to increase innovation and overall employee efficiency have initiated projects to improve collaborative capabilities.

However, most organisations have just begun – if they have begun at all – to combine these different efforts into an overall enterprise content management (ECM) approach.

Organisations have tended to approach such initiatives as a series of separate projects rather than part of a consolidated ECM strategy. Consequently, each project often ends up using a separate technological base.

The projects generally include a phase of choosing a product that supports the users' requirements – with little thought given to whether an existing product could meet the needs.

The base technologies have not been acquired or designed with an eye toward using them to support multiple projects. So rather than layering capabilities on an existing infrastructure, each project creates a new self-contained island of functionality, data and technology.

This began to change – at

least in terms of organisational thinking, if not actual implementations – in 2003.

New approach

Shifting from a project focus to a content infrastructure approach is one of the key challenges IT organisations will face through to 2006.

Making this change is not as simple as it might sound. It involves more than just mandating that new projects build on products already purchased, rather than buying new ones for each project. Indeed, such heavy-handed simplistic pronouncements are rarely effective and are doomed to ultimate failure.

An infrastructure approach requires major changes in how content capabilities are scoped, designed, built, managed and retired.

The steps involved in implementing an ECM structure are:

- **Scoping.** End users have to understand that efforts to meet their specific requirements must fit into an overall plan – rather than being tied to a specific project aimed only at their needs. Any resulting delays and possible concessions made on their requirements should be offset by increased speed of delivery in other areas and general cost savings.
- **Budgeting.** In this context, 'infrastructure' refers to products or technologies that support several different applications or projects. However, many line of business (LOB) managers will interpret an infrastructure approach as meaning that more of the technology they need will be provided from the central IT department, and will not be paid for out of their LOB or project budgets.

However, few organisations have the extra money to provide such infrastructure services for free. More usually, LOBs will have to pay for the technology either by shifting some of their operational budget to central IT or by increasing chargeback fees.

● **Content consolidation.** Most larger organisations have implemented several overlapping content management initiatives. Rather than not enough technology, they face the problem of too many systems, none of which fully meets the organisation's needs.

Some degree of content consolidation will be required for any movement toward content infrastructure and reducing organisational risk. Although it might seem to be an obvious requirement, consolidation is rarely popular since managers see their favourite systems in danger of being consolidated away.

● **Technology discipline.** As end users become more familiar and comfortable with technology, they naturally try to exert more influence over IT decisions. Software vendors have also recognised this development.

Increasingly, salespeople go directly to LOB managers to sell their wares, bypassing IT departments and their architectural vetting processes. Discipline and a process for making technology choices must be defined and shared with LOB managers.

● **Content architecture.** The main requirement for adopting an infrastructure approach is to develop an overall content architecture, which ideally should map onto an overall enterprise architecture.

This architecture should chart the kinds of content in the

organisation, how these content types are used, and the technologies used now and in the future to manage the different parts of the content lifecycle.

Market moves

META research suggests that content management implementations and products – document management, web content management, output management, digital asset management and imaging – are quickly multiplying.

Organisations can improve their costs and efficiency by cutting the number of software products used to manage content and the places where content is stored. This can also reduce their legal risk, while improving the value they realise from their content.

In a recent European META Group study, almost 60% of respondents reported that they had initiated a specific content consolidation project.

Content consolidators need to build and develop end user and business manager support for their consolidation efforts and set priorities for the systems to be targeted for consolidation, since this cannot all be done at once.

The *METAspectrum In Depth* report shows that the enterprise content management tools market will reach \$2.3 billion in software and \$7 billion in services by 2007, representing a compound annual growth rate of 15%.

ECM systems are generally tactical and non-discretionary expenditures, but they are increasingly viewed as strategic core investments as organisations deal with accelerating business velocities, consolidation of redundant content management systems,

to be conquered

exponential growth of content, and compliance issues (mandated or perceived).

Moreover, these systems are becoming more infrastructure than application like.

The enterprise content management market comprises vendors supplying software that enables organisations to create/capture, manage/secure, store/retain/destroy, publish/distribute, search, personalise and present/view/print any digital content (eg, pictures/images, text, reports, video, audio, transactional data, catalogues, code).

These systems focus primarily on the capture, storage, retrieval and dissemination of digital files for enterprise use and their lifecycle management.

Forecast

More vendors are likely to adopt the mantle of 'enterprise content management' during the next 12 months (the process is already happening). This will leave a smaller group of vertically oriented or traditional image/COLD/workflow vendors, or those selling specific components of that functional set.

But while the market is growing, vendors will continue to consolidate through to next year, due to continued acquisitions.

We estimate that by 2006, approximately 60% of the top global 2000 organisations will standardise on a strategic ECM framework, though many will maintain existing investments in tactical or line of business content deployments.

These web services-based content services will be consolidated around a discrete set of trusted vendors, and will be used by a network of

knowledge workers supported by an infrastructure that features different composite-based applications sitting on top of a service oriented architecture.

There will also be increasing overlap with relational database and enterprise storage.

Vendor landscape

Technology is still a key selection driver. However, gaps between the different vendors' products are beginning to narrow, and acquisitions designed to help achieve technology parity are increasing.

Vendors now regard support for previously 'non-traditional' content types – such as email, digital assets and records – as integral to ECM. Equally, centralised administration, integrated management and delivery interfaces, and a scalable product architecture have become as important as pricing and vendor viability.

Organisations are seeking more strategic enterprise content solutions and striving to standardise on as few strategic vendors as possible. Therefore, the ability of ECM software to fully manage all enterprise content – and avoid costs by consistently applying proper compliance and legal risk policies/procedures – is emerging as critical.

As a result, many vendors have tried by acquisition to add the functional components previously lacking in their offerings – specifically, records management, web content and workflow.

Even though not every organisation will require all content functionality in their ECM portfolio, this trend will continue.

Within the ECM market, there are three levels of vendors:

- Leaders possess global presence, significant installed bases, full technology components, deep integration

capabilities, robust channels/partners and the ability to support high-volume, strategic and enterprise deployments. Long-term vendor viability is playing an increasingly important role.

- Challengers often exhibit a strong focus on a specific technology or vertical expertise. This segment contains both traditional document management vendors and vendors evolving to ECM from static archival, web content and imaging/workflow.

- Followers generally trail due to limitations in terms of technology components or lower overall market presence. Typically, these vendors have a stronger focus on core legacy capabilities and view ECM as secondary to their core target market.

In summary, adopting a content infrastructure approach will not radically change the functionality available to content creators and managers or the content that users consume. However, it will make the process of providing that management and the content itself more effective, with less organisational risk.

Therefore, organisations can save money and increase efficiency by shifting from a project-driven approach to designing and building a comprehensive content infrastructure.

- *Jeffrey Mann is a vice president of IT research and consulting firm META Group, specialising in content/knowledge management and portals. More information about the METASpectrum In Depth report is available from www.metagroup.com/metaspectrum. Tel: 01252 819494.*



Jeffrey Mann: gaps between the products are narrowing

FloSuite

FloSuite is a Microsoft .NET-based business process management application that has been co-developed with leading professional and financial services organisations.

It utilises .NET, XML and other emerging standards to provide business analysts (ie, not software developers) with an extensible framework – allowing them to model and orchestrate the interactions between the users, teams, computer applications and documents involved in the delivery of enterprise business processes.

FloSuite is a ‘process-centric’ system designed to support the automation of both the complex interactions typified by knowledge-based professional services work and simple administrative workflows.

It helps organisations develop and deploy a range of case management, risk management,

workflow and electronic service delivery applications with low levels of external programming.

FloSuite is packaged as a set of graphical and dialogue-based software tools that support the creation of web forms, reports, process workflows, decision criteria, data structures and systems integrations.

It also includes a documented programmable API, enabling end users to embed it within existing applications where required.

Standard data integrations include Oracle, SQL Server, DB2, Excel and Access.

Standard application and web services interfaces are also available for leading accounts, HR, CRM, document management and email systems.

FloSuite’s feature set is designed to offer an easy-to-use development environment for BPM solutions, providing web-based collaboration, integration

COMPANY

Turnover (UK)	£2m
Turnover (W)	£2.5m
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	45+
Number of Employees (W)	45+
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

and automation.

Its framework capabilities include:

- Data modelling – describes people, organisations, business objects (requisitions, invoices, applications) and processes.
 - Process automation – automates data retrieval, data value monitoring, risk assessments, decisions and task allocation, and report generation.
 - ‘Virtual’ database design – builds data entities which include properties from multiple systems and link to external data sources live and in place, with no duplication.
 - Data and process access security – automatically restricts user access/abilities to view data or participate in process execution, depending on a user’s profile.
 - Process reporting – automatically records process data and actions for report generation and audit purposes.
- FloSuite’s user interface includes:
- Web browser interface – eliminating the need for thick client software.
 - User-defined forms – users can create targeted user-friendly forms using drag-and-drop and form filling techniques.
 - Document production – users can automatically create printed forms and documents using process and application data.
 - Visio Process Modeller – to graphically design processes and

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applications.

- Programmable API – to create custom applications that can utilise base workflow engine capabilities.
- Portal compatible – the software aggregates and accesses process actions and application data using leading portal products such as Interwoven Worksite and Microsoft Sharepoint.

FloSuite claims the benefits of the package include:

- Cost reduction – organisations can cut staff costs by moving back-office tasks to the front office.
- Risk management – users can evaluate and decide actions in real time based on current data.
- Best-practice decisions – users pre-define process flows to capture and apply the expertise of qualified professionals.
- Legal compliance – FloSuite ensures that processes comply with legal requirements.

FloSuite’s principal markets have historically been professional and financial services, but it is increasingly being used in areas such as HR, marketing, design management, order processing and logistics, across a range of industry sectors. FloSuite BPM solutions are suited to any sector that has defined processes and/or a case or process-centric workload which needs to interact with multiple systems and organisations.

PRODUCT

Name	FloSuite
First installed (year)	2002
No. of UK sites/new sites last 12 months	50 – 30
No. of World sites/new sites last 12 months	60 – 40
Key markets	Legal, financial, government, manufacturing, retail
Current version – date of release	v4.4 – Feb 04
Operating systems supported	Windows 2003
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	Yes
Content management	Yes
Web content management	Yes
Electronic records management	Yes
Imaging	No
Electronic forms processing	Yes
Other	N/A
Standards supported	XML, SOAP, XForms
Web server standards supported to provide integration capabilities	.NET
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	N/A
Special application integration offered/ integration tools supported	Integration tools included for best of breed applications, databases and operating systems

Intalio

Intalio provides a business process management system for enterprise-class organisations. Its Intalio|n³ technology offers a platform for modelling, deploying, executing and managing business processes while re-using existing software assets such as legacy applications, workflow, prior process models and middleware investments.

Intalio is based on advanced Pi-Calculus techniques for mobile processes. It can manage complex and dynamic processes, and has been architected to provide enterprise scalability.

Founded in July 1999 by entrepreneurs and innovators working in enterprise software development, Intalio is a privately held, venture-backed company located in San Mateo, California. It has offices in the

US, UK and central Europe, plus distributors supporting additional markets.

The company has raised over \$34 million in funding and investors include 3i, Woodside Fund, XMLFund, SAP Ventures and Cargill Ventures.

Intalio partners with leading professional service providers to deliver a range of business solutions. Its key global alliances include CSC, Northrop Grumman and EDS.

These relationships are supplemented by local providers with specialised knowledge and experience. In Europe, Intalio partners with organisations including Alexsys, Corviz, Dreamsoft, Glue, Inex, Valtech and Perfect Connection.

From its formation, Intalio has been involved in developing BPM standards. Ismael Ghalimi, the company's founder

COMPANY

Turnover (UK)	N/P
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	N/P
Number of Employees (W)	52
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

and chief strategy officer, is co-chair of the BPMI organisation that has produced standards such as BPML and BPMN (for which Intalio was the reference template).

Intalio says it is committed to a standards-based approach to BPM through its involvement in a range of standards bodies and via continuing adoption of these standards within its products.

Intalio|n³ is a BPM system which enables business processes to be extended into executable and manageable processes that can be deployed onto existing IT assets and directed by business users.

Intalio says the platform was built to help the IT organisation achieve key strategic corporate goals while gaining quick tactical returns on investment.

Intalio|n³ is architected around the process lifecycle, providing a platform to design, deploy, execute, control, monitor, analyse and optimise business processes.

It offers a path for connecting existing as well as new applications and technology assets using a single, integrated graphical development environment that supports the collaboration of business analysts and IT professionals.

Key aspects of the product include:

- Leverages corporate assets (processes, people, systems).
- Supports complexity – eg, distributed transactions.

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User Group Chairman/Contact Point
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- Covers the process lifecycle.
- 100% process design code coverage (no coding used).
- Scalable to support high transaction throughput.
- Handles complex end-user workflows.
- Works with existing J2EE application servers.
- Deploys on top of existing message brokers.
- Supports BPML, BPMN and BPEL.

Market focus

Intalio specialises in BPM. Its customers come from a broad range of industry sectors such as telecoms, government, finance, utilities and manufacturing.

Clients include BAE Systems, Dutch Animal Health, TeliaSonera, US Navy Criminal Investigative Service, iUniverse, LexisNexis, Broadlane and the National Geospatial Intelligence Agency.

Some Intalio partners have adapted the software to address specific vertical market challenges – for example, name portability within the telecoms market.

Common uses of the technology include managing application extension for ERP or CRM systems; application consolidation of a large number of packages and/or legacy systems; and dealing with dynamic processes that may change during execution.

PRODUCT

Name	Intalio n³
First installed (year)	2001
No. of UK sites/new sites last 12 months	AOR
No. of World sites/new sites last 12 months	AOR
Key markets	Horizontal business process management system
Current version – date of release	v2.6 – May 04
Operating systems supported	Any Java-compatible environment. Certified platforms include Win 2000, XP, Server 2003, Sun Solaris, IBM AIX
Software functionality offered:	
Workflow	Yes
Document management	No
Business process management	Yes
Knowledge management	No
Content management	No
Web content management	No
Electronic records management	No
Imaging	No
Electronic forms processing	Yes
Other	Business activity monitoring
Standards supported	Entirely standards-based including BPML, BPMN, BPEL, XML, WSCI
Web server standards supported to provide integration capabilities	All web services standards including .NET, J2EE
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	All standards-based BI tools supported via web services
Special application integration offered/ integration tools supported	Process integration offered via Intalio Connector technology

Metastorm

Metastorm recognises that the software application market has focused its efforts on addressing a broadly generic set of business processes – processes which, while often very important, are not necessarily core to any business and could possibly be better executed as an outsourced service.

Metastorm focuses on the business processes that are not generic – those 'core' processes that make an organisation unique in its marketplace and provide competitive edge.

Metastorm's sole focus with its BPM software is in helping both public and private sector organisations improve those core processes in order to achieve a higher level of

business performance and competitive advantage – or what Metastorm calls 'Enterprise Process Advantage'.

Metastorm is a private company with corporate headquarters in Columbia, Maryland, and international headquarters in London. It is backed by investors including 3i, UBS and Dresdner Kleinwort Wasserstein.

It has over 700 customers worldwide, with sales offices in North America and Europe, and a worldwide network of partners and distributors serving the broader market.

Named as a 'leader' in Gartner Group's BPM Magic Quadrant, Metastorm offers a 'people are integral to

COMPANY

Turnover (UK)	N/P
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	60
Number of Employees (W)	115
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

processes' approach, along with its award-winning software.

Metastorm's e-Work software provides a platform for deploying and customising BPM solutions, designed to meet the individual and complex process needs of any organisation.

As an enterprise BPM platform, e-Work includes five key elements – process designer tools; runtime execution engine; agility facilities; monitoring and management functions; and process analytics.

The solution is particularly suited to unique, people-based processes.

Metastorm has over 700 global clients in manufacturing, financial services, business services and government.

They use the software in areas such as customer service, supply chain operations, risk management and internal operations.

Together with its partner network, Metastorm aims to help companies improve their core 'human-centric' processes in three key areas:

- Process management and control – ensuring processes are adhered to according to rules, exceptions managed and reported, procedures followed, legislation adhered to, etc. This can be described as process 'risk mitigation'.

Examples include Basel II adherence; corporate governance processes; anti-

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User Group Chairman/Contact Point AOR

money laundering/terrorist legislation; Freedom of Information Act compliance; hazardous processes and process auditing.

- Process efficiency improvements. Examples are cross-functional or organisational process improvements; debt/cash collection; document processing; sales/trading settlement; client interaction; supply chain and internal operations.

- Process and business agility – making sure that the business can react quickly to changes in market dynamics, that organisations and systems can be integrated or merged quickly, and new products and services are brought to market faster.

Examples include resource reallocation; frequent legislative changes (eg, tax laws) and new product development.

Companies using e-Work in these areas include London Underground, Deutsche Post, Fiat, MSB International, Harrow Council, Stirling Council, Morse, University of Nottingham and Tayside Contracts in Europe.

In North America they include Tetra, Cooper Tire, Morrison Foerster, Blue Rhino, Clarks, US Treasury Community Development Financial Institutions Fund (CDFI), and Gaston Memorial Hospital.

PRODUCT

Name	e-Work
First installed (year)	1996
No. of UK sites/new sites last 12 months	350 plus – 150 plus
No. of World sites/new sites last 12 months	800 plus – 150 plus
Key markets	Government, business services (eg, legal and accountancy firms), financial services, retail, manufacturing & distribution, construction
Current version – date of release	v6.2 – March 04
Operating systems supported	Windows 2000, Server 2003, XP Professional, 2000 Professional
Software functionality offered:	
Workflow	Yes
Document management	No*
Business process management	Yes
Knowledge management	No*
Content management	No*
Web content management	No*
Electronic records management	No* (*integrates with all key DM, KM, CM and ERM products)
Imaging	No
Electronic forms processing	Yes
Other	Process activity monitoring
Standards supported	Metastorm utilises those standards appropriate to BPM systems which are generally adopted, inc. XML
Web server standards supported to provide integration capabilities	.NET, J2EE, web services (SOAP, WSDL)
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Any BI software that can access SQL data
Special application integration offered/ integration tools supported	Integrates to other XML applications. Supports MS BizTalk, Outlook, Exchange & SharePoint Portal Server, LDAP Directories, Novell GroupWise, SMTP mail + Jscript and VB Script

Objective

Objective Corporation develops enterprise content management (ECM) solutions that help organisations utilise knowledge in all its forms.

The solutions address a range of business challenges by enabling organisations to re-use corporate memory, reduce processing costs, take decisions based on more complete information and ensure regulatory compliance.

Objective's solutions are used in a range of business applications: eGovernment; electronic records management; case file management; electronic document management; content management; process management; and enterprise knowledge management.

Objective has a worldwide customer base, including the UK. They include major government bodies as well as large corporates. Objective says its solutions offer business

benefits to both smaller organisations and those involving tens of thousands of users.

The company's professional service team, which has years of experience in implementing Objective solutions, helps ensure the technology, the solution design and the human factors line up to deliver the anticipated business outcome.

The Objective Product Suite has been engineered to meet the requirements of government organisations and large corporations with large volumes of unstructured information, often complex business requirements and diverse deployment characteristics.

Objective is an integrated suite of ECM modules, designed to address the broad requirements of document lifecycle management, electronic and physical records management, process

COMPANY

Turnover (UK)	AOR*
Turnover (W)	AOR*
Profit Before Tax (UK)	AOR*
Profit Before Tax (W)	AOR* (*at www.objective.com)
Number of Employees (UK)	70
Number of Employees (W)	170
Software Marketed (UK)	D
End User Support by	D
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

automation/workflow, web content lifecycle management, team collaboration, enterprise knowledge discovery and reporting.

Objective Workflow

Objective extends traditional electronic document management (EDM) and records management (RM) to offer process management to the organisational desktop. Objective Workflow is designed to streamline business processes, improve back-office productivity and provide key business knowledge to staff and management.

It is a process automation product that works within an organisation's knowledge management framework, allowing it to control and extend business processes while reducing the security risks and logistical costs associated with paperbound, manual processes.

As with any enterprise content management solution, the greatest challenge an organisation will face will be getting everyone to use it. Objective suggests users will make more use of process and task-based computing if it is incorporated seamlessly into the everyday environment in which they work.

Objective sees the key to workflow as being an object-

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User Group Chairman/Contact Point
AOR

centric view of process and knowledge management.

The object-centric perspective replaces the purely process-oriented approaches which seek to put the task list at the centre of the user experience and relegate objects to a peripheral role.

In the object-centric model, familiar and traditionally static objects such as documents, folders and files take on a new dynamic dimension. Instead of being related to workflow processes and tasks as referenced objects, these entities are seen as owning the processes to which they belong.

This method also allows workflow complexity to be reduced, says Objective.

Traditionally, the majority of workflow design effort was often spent creating special routes through processes for exceptional cases, rather than focusing on the main flow of control.

Objective Workflow provides the ability to move a case object across a workflow map even between tasks and in ways that the workflow designer had not thought of at design time.

Objective says the aim is to make workflow fit the way that people work with everyday objects that they use and manage, rather than forcing users to fit the mould of a rigid process design.

PRODUCT

Name	Objective
First installed (year)	1998
No. of UK sites/new sites last 12 months	60 plus – 30 plus
No. of World sites/new sites last 12 months	500 plus – 100 plus
Key markets	Government, finance, utilities, eGovernment, enterprise content management
Current version – date of release	Objective 6i – 2003
Operating systems supported	MS Windows, Solaris
<i>Software functionality offered:</i>	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	Yes
Content management	Yes
Web content management	Yes
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	Yes
Other	Case management
Standards supported	XML
Web server standards supported to provide integration capabilities	J2EE
Does product have its own business intelligence/analytical tools?	No
Does product support third-party business intelligence/analytical software?	Built-in integration with Crystal Reports
Special application integration offered/ integration tools supported	C++, VB, Java APIs

New routes

Katie Walsh of EDS (right) looks at how processes can be improved through workflow and document management.

WITH BUSINESS MODELS constantly changing and organisations moving to outsourced solutions, the drive towards improving business processes has never been greater.

Organisations expect outsourcing to streamline business processes efficiently and effectively if they are to achieve rapid payback and return on investment (ROI).

This is where workflow can support the inhouse and outsourced business process improvements that help CEOs gain the business benefits they seek in order to remain competitive.

Background

Historically, workflow in its basic form routed documents to end users, centred on scanning and basic data capture.

Ideally, workflow offers an end-to-end process that provides the user with the required information, instructions and tools to perform a business task, based on the information that initiated the process and the user's skills profile.

Nowadays workflow is becoming increasingly sophisticated. It can support complex business processes and offer the ability to integrate with other systems, update databases, automatically start processes without user participation and make intelligent decisions based on information captured – allowing users to focus on work that is more important.

Workflow is still used in its traditional role of routing images and managing the flow of documents. However,

sophisticated rules-based solutions can make decisions without users being involved and provide an efficient and consistent working environment, as this enables tasks to be automatically co-ordinated.

For example, an application form will be received and the user will process the sections that they are qualified to do; the rules engine will then determine where the application form should be routed to next.

In this instance, workflow can provide an important link between front-line operations and the back-office processes. This is especially useful in contact centre environments, as a phone call can initiate a process that requires administrators to process paperwork.

Like all IT projects, workflow implementations can go wrong. The most common mistakes lie in not involving users in the project, taking the big bang approach on go-live, providing inadequate training or sticking with poorly defined business processes.

The human factor in workflow is one of the main challenges – it is essential to get buy-in from end users as early as possible. This means users must be encouraged to participate in the analysis, design and, most importantly, acceptance testing.

It is impractical to involve the entire workforce; for this reason, key users from each department affected by the proposed change should be used as a vehicle to voice users' concerns – and in return they should communicate the aims, objectives and progress of the



project to their colleagues.

It can be beneficial to set up a user consultation group that meets with project and technical managers on a regular basis – for example, once a month or more frequently during testing – to discuss the progress of the project, and any business and technical issues that are critical to its success.

There is always going to be resistance to new systems. But while this can never be eliminated, it can be reduced by making users feel their opinion is valued.

If users feel undervalued, resistance can grow and rumours develop. A system with a bad reputation is a system no-one wants, even if it has full management support.

Training should be dynamic and should simulate the real working environment in classrooms, so users can relate to how the system operates on a daily basis by undertaking typical work scenarios. This is important, as go-live is not the time to address training needs.

Business processes should be streamlined during the analysis and design stages of the project, so inefficiencies are removed.

However, many organisations automate manual processes regardless of how good or bad they are. This is poor practice and introduces bottlenecks and inefficiencies into the new system.

System go-live can go wrong,

especially if a big bang approach is taken – where the failure is high profile because it is visible to all users.

Often these types of rollouts are under-resourced and users do not get the support or training they need to use the system. It is highly recommended that smaller, more manageable rollouts are undertaken, as these can be supported more easily – and any failure can be contained.

Smaller rollouts are also more successful because the result is easier to achieve. In addition, users talk to one another; if the first team of users to receive the new system is satisfied, they will tell others and the level of resistance amongst other teams is likely to lower.

Business benefits

Workflow is suitable to a variety of commercial and operational service-related industries, such as the public sector, financial services, insurance, utilities and telecoms.

Organisations that perform repetitive administration tasks, support collaborative working environments or are customer service-centric will benefit the most from this technology.

Workflow, if correctly implemented, can provide the following benefits:

- Real-time business performance monitoring and management information.

- Enhanced performance by identifying and reducing bottlenecks.
- Improved consistency and accuracy of information by reducing errors and loss of data.
- Help in achieving compliance throughout the process lifecycle.
- Support for real-time changes by automatically routing information to individuals and/or groups responsible for performing tasks associated with the change.

Organisations that fully integrate workflow with other technologies – such as mailroom automation software,

image, web portals, CRM and line of business applications – also achieve real business benefits.

Only when processes are fully joined up can organisations begin to achieve next-generation efficiencies by straight-through processing and by better harnessing customer data.

It can also be beneficial to integrate workflow with active management software. This enables organisations to control resources more strictly, by ensuring the resources available are used to undertake the work

that is the most important to the business and the customer.

Workflow is typically implemented in clerically intensive business processes in order to streamline them and bring greater efficiencies, consistency and improvements to customer service.

Benefits – whether reduced service time for the customer, single-point customer resolution or cheaper processing costs – will only be realised if the new systems and processes are smoothly introduced and accepted by users.

The key to success here is

managing the inevitable culture change.

Workflow highlights information about operational processes that would not previously have been visible, making it easier for managers to make comparisons and improve individual and team productivity.

This alone is enough to make users wary; it's therefore vital to invest time in gaining buy-in and making users feel part of the implementation project.

Table 1 sums up the key factors to consider if the implementation of workflow is going to be successful.

However, this is not a definitive list and each project will have unique factors which must be managed.

Clearly, there are many factors to consider, and business benefits can only be embraced if the project is correctly managed from its conception.

Conclusion

In summary, both outsourced and inhouse business processes can be improved using good workflow solutions.

With organisations facing constant challenges, and business models having to become increasingly fluid, workflow can have a major positive impact.

Workflow is capable of managing a variety of diverse processes within equally diverse industries. But the key to success is to take into consideration the factors outlined in Table 1.

Organisations should look beyond current business limitations and revenues and start to work towards aligning processes with the business strategy, which in turn will help deliver that strategy.

● *Katie Walsh is an information analyst with EDS. For more information on image and workflow, please contact Jane Scott, EDS UK CMS Delivery Lead. Email: jane.scott@eds.com. Website: www.eds.com.*

TABLE 1: Key factors when implementing workflow

Factor	Description
Technology	Confirm that current and future business demands can be supported by the technology selected and investigate a variety of solutions. Ask product vendors to provide site references and arrange visits as this will give an idea of what can be achieved, even if it is not industry related. Cost can appear prohibitive but the right investment can deliver long-term business benefits and savings, so it may well pay to spend the money on the correct technical solution. Do your cost benefit analysis carefully.
Resources	Assign the correct resources and do not under-resource the project. Ensure users take time out from operational work to assist in requirements definition – a balance between blue-sky thinking from consultants and real practical insight from users is ideal for solution optimisation. Don't skimp on training or go-live user support.
Experience	Choose systems vendors and integrators with an established record and experience in delivering workflow solutions. Staff must be trained and time must be invested. Training must not be ignored or rushed, as no matter how well staff understand the current processes and technologies used, the new solution is still an unknown and must be treated like one. No matter how streamlined a process, it can still allow for human error and only training can reduce this risk.
Performance Measures	Establish performance measures for both staff and processes at the earliest opportunity; do not wait until the project has been delivered. Workflow can provide this information, but it needs to be used effectively to assess and improve the overall business process and provide the information sought for ROI. Stress/volume testing is a must as it indicates how well the system will perform in the live environment.
Need	Assess that there is an actual need for workflow on a per department basis, as no business benefits can be realised if there is not a problem to address.
Managed Processes	Current business processes should be reviewed and streamlined where possible so that the inefficiencies are removed. Never simply automate existing processes. Once live, continuously assess processes to make sure that they are still delivering reduced processing time and that delays are minimal. This is an ongoing process and is vital if the organisation is to remain competitive.
Communication	Stakeholder communication must be extensive. Communication must remain constant during the project lifecycle so that expectations and requirements are met.
Commitment	Full support from management is vital from start-up to conclusion. Resources assigned to the project from the customer must be able to offer full commitment to the project. This is also applicable to vendor and system integrator resources.
Scope	The project scope must be defined and managed from the start and communicated to all stakeholders so that expectations can be managed and the aims and objectives of the project are clear. Manage expectations, make sure people understand what they are getting and do not make promises that cannot be met.

Cinderella systems?

The true worth of document management systems is finally being recognised, says Stewart Mills of Parity.

DOCUMENT management or EDMS – electronic document management systems – have long been pushed aside by many IT professionals.

Traditionally, systems designers like to hold all corporate data electronically and to capture that data at source. The internet allows customers to operate in self-service mode – and you can't get nearer to 'data capture at source' than that.

So why do we still need document management systems?

In the real world, many people are not sitting at workstations but are out and about where paper is still, and always will be, the most convenient way to hold information.

For many who work for organisations like the utilities industry, digging holes in the ground, paper is the most sensible arrangement.

Research papers contain information held on one or more databases. Minutes of meetings hold information that may subsequently prove to be vitally important. Companies therefore recognise that while all data should be held electronically, useful information often sits in documents, which cannot.

The challenge is how to retrieve data to make best use of the information. And this explains why document management is at last being taken seriously, and why workflow solutions are providing the productivity

improvements that many earlier automated systems failed to achieve.

Of course there are a number of caveats that must be considered if organisations are to succeed.

For example, a workflow solution should connect all the people in different functional areas who undertake the activities that make up a process. On the technical side, companies also need to ensure that electronic documents can be migrated to new environments when a technology infrastructure upgrade takes place.

Too many system architects focus on how to automate activities where data retrieval is easy – such as sales data captured online and held in a relational database.

By using workflow and document management packages, organisations can now streamline a whole process.

Every company still wants to get rid of labour-intensive

activities such as photocopying and distributing paper documents. If paper has to be used, due to the physical nature of the business operation, then an electronic document should be sent and printed locally.

Of course good system design remains important and for an EDMS, using templates and/or document samples that others can easily access or make use of improves the system. Also, the more that people are involved in the detailed design, the more likely they are to use the new process/system.

As Lao Tzu, the Chinese philosopher, once said: "Tell me and I'll forget. Show me and I may remember, but involve me and I will understand."

Designing processes

Workflow and document management software packages enable organisations to re-engineer business processes and achieve substantial returns on the investment in IT.

BPR (business process re-engineering) has acquired a bad

reputation as 'big people reduction', so it's not surprising that many staff are still suspicious when organisations talk about re-engineering a process.

However, when people come to appreciate that they can access information held in documents quickly and easily and share this information with others, the attitude tends to change.

When people see they will benefit from a change, they are willing to go along with it.

Productivity improvement is achieved by having everybody undertake the process activities in a consistent manner, and this is facilitated by the workflow package. This is quality management in action or 'getting it right first time, every time'.

One of the advantages of workflow and document management systems is that the system keeps track of events as they occur, so there is an audit trail as well as an easily understood and operated set of controls.

Both of these features are important for security, since people only see information when it is appropriate and are reminded to undertake the next activity in a process.

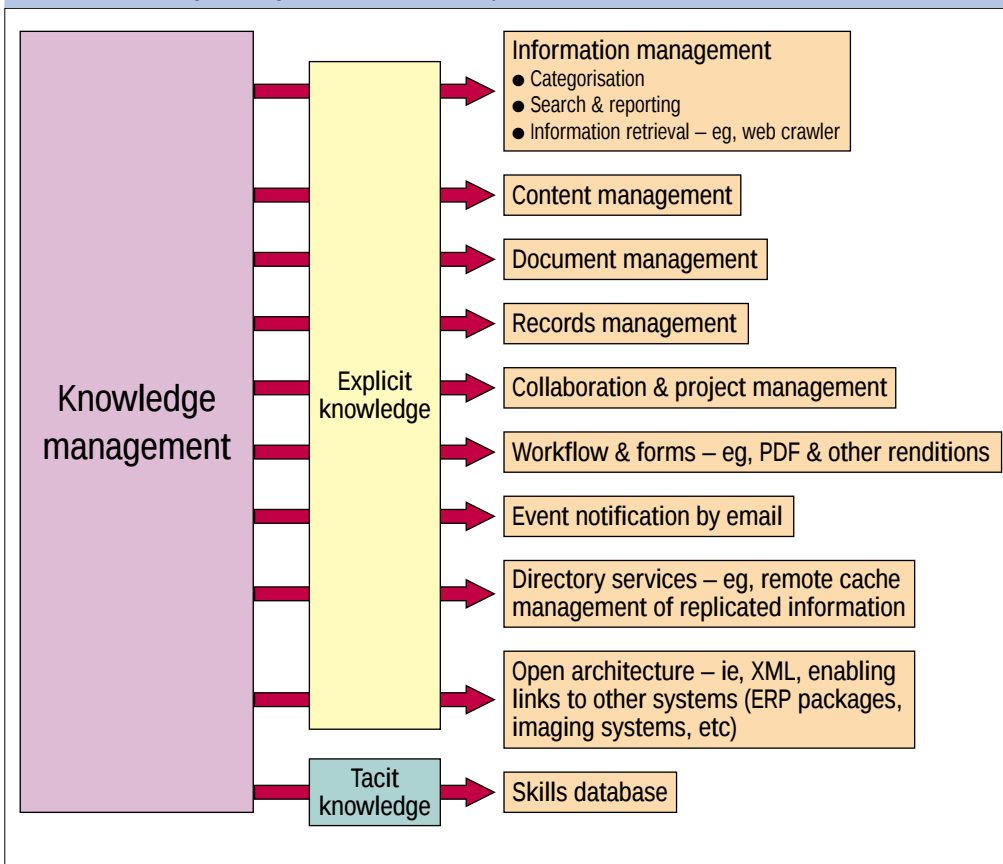
However, using a software package does not mean ignoring good documentation design principles, such as:

- Version control, including document date.
- Retention times, so as to not clog up the system with out-of-date information.
- Categorisation on a document – eg, meeting minutes or research papers.
- Author and other contact details.
- Audience, objective and/or key word summary, which will



Stewart Mills: involve people and they will understand

FIGURE 1: Knowledge management tool functionality



be of use to individuals seeking information.

Data can also be captured using a variety of hardware and software-based techniques such as:

- Numbered forms.
- Barcodes pre-printed on forms.
- Mark sensing – ie, crosses in designated boxes on a form.
- Optical character readers (OCR).

Knowledge management

I believe workflow and document management systems are now key components of a whole new way of working.

What sort of picture do the words 'knowledge management' conjure up in the mind?

To some, knowledge management is all about that fuzzy term 'networking', where people get together in virtual 'knowledge' groups and share experiences and information. The problem with this description is that there is too

much reliance on individuals' personal knowledge.

On the other hand, software vendors believe that knowledge management is all about search engines and how best to structure and hold information. In this type of scenario, naming standards are a key feature; otherwise the ability to find useful information is impaired.

Actually, neither of these approaches addresses the way that people actually work which is the sequence of activities that people undertake in following a process. This is where workflow comes into its own.

I once heard knowledge management guru Karl Sveiby say that: "Knowledge is the capacity to act, not something stored in a database."

In my view, without workflow present to structure business activity, knowledge workers are operating in an environment where there is reduced productivity.

Given that the whole point of using technology is to improve

productivity, this is a huge wasted opportunity that is costing businesses money.

As a consultant, I have helped clients to improve their business processes, and on occasions this has involved changing the whole work environment.

Nowadays the type of software tools that are available can offer vastly more than just workflow and document management. Figure 1 provides an outline of what could go in a toolkit.

For reference, explicit knowledge can be recorded and accessed by others; tacit knowledge is what an individual knows instinctively from experience and/or gut feel, plus the application of common sense.

The diagram shows all the subject areas that come under the heading of knowledge management. For example:

- Document management is important, as much of an organisation's information actually sits in documents.
- Collaboration and project

management is a facility that enables people working in teams to share information in dynamic (real-time) mode, and keep track of events within a project team.

The original Lotus Notes software was an early version of this facility.

- Where there is a standard process for dealing with a situation, then an organisation can build this into a workflow module so that a consistent approach is used.

- This feature can be taken further – an organisation can set up the software so that when a certain type of 'event' has occurred, an email will be generated and sent to an individual to alert them to the situation.

Maybe there is a toolset already out there that provides this functionality, but if not, it will not be long before one is introduced.

As can be seen from the list of headings, workflow and document management are integral components within a knowledge management solution.

Conclusion

So where does all of this take us?

Although IT impacts on all aspects of life, organisations have accepted that some information will always need to be held in documents or stay paper-based.

This means document management is going to remain an important tool in the IT arsenal for some time to come. Likewise all routine processes can now be better managed in a quality environment through the use of workflow software with measurable gains in productivity.

I think this is the year when the 'Cinderella of IT' finally gets to go to the ball.

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SDL International

Founded in 1992, SDL International is a world leader in the provision of translation services and technology solutions. It is headquartered in the UK and has over 40 offices worldwide.

Since its flotation in 1999 on the London Stock Exchange, SDL's revenues have grown from £13 million to over £64 million.

The company provides outsourced localisation, translation products and localisation services, and has achieved market share growth in all these sectors.

Workflow

SDL recognises that increasing content volumes, more frequent updates, more languages and distributed resources accessing centralised translation assets all add to the complexity of managing the creation and

maintenance of multilingual content.

SDL believes the key to optimising this process is the clear definition of process, the timely execution of that process, the efficient sharing of translation assets and tracking each step in the process.

SDLWorkFlow manages the end-to-end localisation process, including integration with existing systems and the application of translation technology components.

Its web-based architecture and role-based security provides access to everyone who needs it, wherever they are located.

The software establishes a task-based workflow, consisting of human and system tasks, for each content type and for each target language. Individual resources in the workflow are notified via email when they need to work on a given task,

COMPANY

Turnover (UK)	N/P
Turnover (W)	£64.4m
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	£4.1m
Number of Employees (UK)	350+
Number of Employees (W)	1,300+
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D/I
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

and can also view a web-based summary of all outstanding tasks assigned to them.

Once a process has been defined, SDLWorkFlow monitors the source content for change. When a change is detected, it automates much of the work, including extracting the text to be translated, applying translation memory, costing and invoicing, and all aspects of managing the content through the translation process. The re-integration of translated content into the target system can also be automated.

SDLWorkFlow manages translation memories in a centralised repository. Offline and online translation resources have access to these assets to optimise the use of translation memories.

SDLWorkFlow provides standard reports covering different metrics, such as translation memory usage, translation costs and savings, productivity of linguistic resources and job status.

Users can also define custom reports and output into third-party tools, to further analyse the data. Reports can be scheduled and a circulation list defined to ensure appropriate staff are kept informed of key project metrics on a regular basis.

Case study

One SDLWorkFlow customer, PeopleSoft, generates web

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content in 10 languages across 24 websites, resulting in thousands of pages that need to be kept synchronised with the English source content.

Although the company's web content was already managed and published using Interwoven TeamSite, this central control did not extend across the distributed team of authors, translators and reviewers.

Before it implemented SDLWorkFlow, PeopleSoft's manual process for preparing content files for translation and re-integrating the files back into TeamSite involved 36 manual steps. This process has now been cut to six steps.

The implementation of SDLWorkFlow for translation management has provided central control and visibility of all translation costs, while offering the management metrics needed to optimise the overall translation process.

Market focus

SDL sells to consumer, SME and enterprise organisations in the major vertical markets, including IT, electronics, automotive, financial services, pharmaceuticals and manufacturing.

Customers include Adobe, Bayer, Bosch, Canon, DAF, DaimlerChrysler, Kodak, Microsoft, Morgan Stanley, Oracle, PeopleSoft, Reuters, Siebel, SAP and Sun.

PRODUCT

Name	SDLWorkFlow 2004
First installed (year)	1999
No. of UK sites/new sites last 12 months	20 – 10
No. of World sites/new sites last 12 months	60 – 25
Key markets	IT, electronics, automotive, hospitality & leisure, information services
Current version – date of release	SDLWorkFlow 2004 – May 04
Operating systems supported	Windows 2000 Server, IE 6+ and Netscape 7+ browsers
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	No
Knowledge management	No
Content management	Yes
Web content management	Yes
Electronic records management	No
Imaging	Yes
Electronic forms processing	No
Other	N/A
Standards supported	XML, Unicode, TMX
Web server standards supported to provide integration capabilities	.NET
Does product have its own business intelligence/analytical tools?	No
Does product support third-party business intelligence/analytical software?	Interfaces to all reporting tools
Special application integration offered/ integration tools supported	Integrates with single language content management systems to provide multilingual content management

Singularity

Founded in 1994, Singularity is a leading provider of process-centric solutions, offering the award-winning Singularity Process Platform and a range of professional services.

The product has been rated as “visionary” by Gartner and a “potent and effective BPM product that distinguishes itself from the competition” by Butler Group. It won a 2003 Global Excellence Award given by the Workflow Management Coalition.

Singularity is a privately held company, operating globally from its HQ in Ireland and offices in London, New York, Singapore and Hyderabad.

It has customers throughout Europe, North and South America and South East Asia, including JPMorgan (global), British Telecom (UK) and Datamail (New Zealand).

The Singularity Process

Platform, the company’s foundational offering, is a business process management and workflow solution that helps organisations manage business processes throughout their lifecycle. It offers the following components:

- The Builder is a graphical tool that business and IT staff use to design, simulate, test and deploy effective processes.

- The Driver is the engine that orchestrates efficient execution of these processes.

- The Monitor provides insight into process and business performance.

- The Optimizer closes the loop by triggering and supporting continuous improvement of processes.

The Platform combines workflow, enterprise application integration (EAI), document management, process automation, rules and forms

COMPANY

Turnover (UK)	N/P
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	N/P
Number of Employees (W)	105
Software Marketed (UK)	D/I
End User Support by	D
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

management, and process monitoring and continuous improvement.

It acts as co-ordinator and orchestrator, configuring the optimal combination of people and technologies to achieve business goals and tying together existing systems with new ways of doing business.

The Platform has an open and component-based service oriented architecture (SOA) designed to permit rapid development, integration, deployment and revision of business processes. The Platform enables business and IT staff to collaborate in the control and improvement of a company’s processes.

Services

Singularity packages its services, aiming to provide predictable outcomes, early visualisation of result, best practice, project risk management and knowledge transfer.

Its pre-packaged services include:

- ROI Discovery – highlights the areas that constrain a company’s business performance and prioritises areas with good potential for profit through better process.

- Proof of Concept – demonstrates how ROI can be achieved through better process management.

- Phased Implementation – a disciplined approach to implementing new or improved

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User Group Chairman/Contact Point
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processes which helps users manage risk and progress methodically to achieve forecast results.

- Knowledge Transfer Programmes – help customers become self-sufficient in process management.

Singularity also offers education in the form of five, three and one-day courses. 24x7 customer care via telephone and email is also offered.

Market focus

The Singularity Process Platform is targeted horizontally at buyers of BPM and workflow solutions, and vertically at the financial services, telecoms, government and healthcare markets.

Singularity’s move to more targeted solutions is illustrated by the development of a securities trading management solution for financial services companies.

It has established partnerships with OEM partners as part of its strategy to serve customers in targeted vertical sectors – for example, Northgate and Capita currently embed the Platform in products sold in the government sector.

Singularity’s partnership with Ascential Software provides access to enterprise data integration capabilities which complement the company’s process-centric solutions.

PRODUCT

Name	Singularity Process Platform
First installed (year)	1999
No. of UK sites/new sites last 12 months	81 – 54
No. of World sites/new sites last 12 months	126 – 74
Key markets	BPM, workflow, financial services, government, healthcare
Current version – date of release	v2.9 – March 04
Operating systems supported	Windows NT, 2000, XP, 2003
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	No
Content management	No
Web content management	No
Electronic records management	No
Imaging	No
Electronic forms processing	No
Other	N/A
Standards supported	XML, COM, SOAP
Web server standards supported to provide integration capabilities	.NET
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Yes – any that supports industry-standard interfaces
Special application integration offered/ integration tools supported	Integrates with COM, Script, .NET, web services + other integration tools communicated with via these standards (eg, MQSeries, SNA Server, etc)

Triaster

Triaster is a leading UK business process improvement specialist, providing a range of Continual Process Improvement solutions. The company has a consultancy background, combining an understanding of organisational culture and the challenges involved in process improvement together with technical expertise.

Triaster is based in Oxfordshire and was established in 1994. It has strong links with Microsoft and BSi. Its solutions are designed to provide faster core processes so that users can, for example, deliver new and improved products to market faster than before.

The solutions support more efficient support processes, reduced waste and improved morale. They enable organisations to review and assess process fit against

strategic objectives, so that process improvement can continue and scale.

The Continual Process Improvement solutions place ownership and responsibility for process improvement in the hands of the staff who execute the process. However, Triaster recognises that enterprise-wide process mapping and improvement is a major undertaking, and supports users with the process mapping, the analysis of the data captured, and the implementation of an improvement road map.

This support is tailored to specific requirements and includes all or some of the following: Process Navigator, customisation, training, consultancy, improvement workshops, middleware and software/hardware implementation.

Triaster's flagship product,

COMPANY

Turnover (UK)	N/P
Turnover (W)	N/P
Profit Before Tax (UK)	N/P
Profit Before Tax (W)	N/P
Number of Employees (UK)	N/P
Number of Employees (W)	N/P
Software Marketed (UK)	D/I
End User Support by	D
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

Process Navigator, is core to its Continual Process Improvement solutions. Process Navigator comes in two parts: Mapping Edition and Analyst Edition.

Mapping Edition enables non-process specialists to capture the processes they perform on a daily basis, in a graphical format. It is designed to be easy to use and imposes a uniform process framework across the organisation.

Analyst Edition identifies the end-to-end business processes and where the improvements should start. It is wizard driven, and builds the enterprise map and publishes it to HTML so everyone has access to the process data captured.

Process Navigator is written on the .NET platform, utilising the Microsoft Visio graphics engine. It enables users to capture data enterprise-wide in real time. Subsequent consolidation of the data into an XML-based repository enables it to become a re-usable resource – the aim being to deliver the right information at the time it is wanted, in the format required.

Process Navigator can be integrated with the Microsoft Office system, in particular Microsoft Project 2003, SharePoint 2003, OneNote 2003 and InfoPath 2003, and other common applications such as Oracle.

It exposes an ActiveX Server called Process Objects. This is a

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User Group Chairman/Contact Point
N/A – currently setting up user group

wrapper on the Microsoft Visio 2003 object model, in a logical structure for business processes. Triaster says any developer familiar with object oriented programming models can build applications on top of Process Objects.

Triaster says its Continual Process Improvement solutions can help any organisation improve its processes. Accordingly, the company has customers across a number of vertical markets.

Triaster also has major market share in the public sector, telecoms, IT, financial services, manufacturing, engineering and professions.

Within the public sector, London Borough of Hillingdon (LBH) is a customer. By streamlining its processes and having all legacy documentation at employees' fingertips, LBH believes it will save £470,000 on its generic processes, extrapolating from the first six documented processes.

Currently, only LBH's 2,000 Civic Centre employees have the process intranet available to them, but even with the 56 processes presently documented, LBH believes that £250,000 savings are achievable.

More details on this and other Triaster customers are available from www.triaster.co.uk.

PRODUCT

Name	Process Navigator
First installed (year)	2000
No. of UK sites/new sites last 12 months	300 – 80
No. of World sites/new sites last 12 months	400 – 100
Key markets	Public sector, telecoms, IT, financial services, manufacturing
Current version – date of release	v3 – Jan 04
Operating systems supported	Windows 2000, XP
Software functionality offered:	
Workflow	Enabled
Document management	Enabled
Business process management	Yes
Knowledge management	Yes
Content management	Enabled
Web content management	Enabled
Electronic records management	No
Imaging	No
Electronic forms processing	No
Other	N/A
Standards supported	XML
Web server standards supported to provide integration capabilities	.NET
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Yes – Simul8
Special application integration offered/ integration tools supported	Process Navigator v3 uses XML and XSLT to turn data captured in the process map to any format, in particular MS Office

Vignette

Vignette V7 Platform. Vignette V7 products offer a suite of services to create, share, manage and present information to users anywhere, at any time.

Vignette V7 Application Services are built on industry-standard open technologies and can be deployed in a modular fashion to assemble business applications within the heterogeneous environments found within most enterprises.

- Vignette Content Management automates the processes for creating, managing and publishing content for the web.
- Vignette Application Portal provides businesses with enterprise portal management capabilities. It helps companies realise economies of scale by aggregating and managing

multiple initiatives on a single portal network.

- Vignette Application Builder puts the capability of portal application building in the hands of business users. The visual environment enables users to create and customise applications, helping them to respond more rapidly to changing business needs.

- Vignette Dialog utilises an organisation's investment in its websites and portals, offering a software solution that can automate personalised sequences of customer interactions – or dialogues – with the aim of creating loyal, profitable relationships.

Vignette Records & Document Server (RDS). Traditionally, records management capture and

COMPANY

Turnover (UK)	AOR
Turnover (W)	\$158m
Profit Before Tax (UK)	AOR
Profit Before Tax (W)	(\$0.03m)
Number of Employees (UK)	100
Number of Employees (W)	950
Software Marketed (UK)	D/I
End User Support by	D/I
End User Training by	D
Key: D Direct, I Indirect N/A Not available/not applicable, N/P Not provided, AOR Available on request	

retention was the domain of a small group of highly trained records managers. Today, with a growing list of legal and regulatory requirements, Vignette recognises that document and records management systems must be automatic, flexible, integrated, secure and intuitive for everyone to use.

Vignette RDS provides the following features:

- Single repository. Vignette RDS integrates document management capabilities with records retention policies. This helps to avoid 'broken records' as information is transferred from document management to the records management system for long-term storage and ultimate disposition.
- Compliance standards. Vignette RDS supports document and web transaction non-repudiation, with built-in recording of digital audit trails directly into a secure database.

It helps users meet regulatory mandates such as the Gramm Leach Bliley Acts and industry standards such as SEC17a-3 and 17a-4 and DoD5015.2.

- Lifecycle solution. The software reduces paper trails for casework and establishes standards for secure public and corporate records. Scanned images, collaboration, workflow and publishing of documents are managed, stored and optimised for compliance.

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User Group Chairman/Contact Point
Tom Hogan (President + CEO)
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Vignette RDS includes:

- Records management. Users can manage risk across the organisation through record cut-off control, expiration review cycles and workflow, manual authorisation steps, and secure high-speed XML/SSL transfer of information between departments and different storage media.

- Electronic information capture. Users can incorporate captured documents and images from streamed computer output (ASCII, XML), fax and paper documents and web transactions.

- Imaging and indexing. Users can access distributed or centralised scanning and indexing of physical documents and correspondence records, with support for independent or remote scan workstations.

- Email archival. Users can capture, categorise and archive high volumes of internal and external email and instant messages for improved filtering, searching, retrieval, auditing and long-term storage.

- Collaborative document services. Users can manage complex documents, created from popular desktop applications such as Microsoft Office with check-in and check-out, versioning, audit trails and document review and approval workflows.

PRODUCT

Name	Vignette V7 Platform
First installed (year)	EMEA: 1998
No. of UK sites/new sites last 12 months	328 – 75 plus
No. of World sites/new sites last 12 months	1,600 plus – AOR
Key markets	Public sector (central + local), financial services, insurance, healthcare & pharmaceuticals, telecoms
Current version – date of release	v7 – 2003
Operating systems supported	Windows, Solaris, AIX, HP-UX, Linux
Software functionality offered:	
Workflow	Yes
Document management	Yes
Business process management	Yes
Knowledge management	Yes
Content management	Yes
Web content management	Yes
Electronic records management	Yes
Imaging	Yes
Electronic forms processing	Yes
Other	Portal, collaboration, email management, case management, integration, web content management
Standards supported	XML, WfMC, J2EE, .NET, JSR168, DoD5015.2, etc
Web server standards supported to provide integration capabilities	.NET, J2EE
Does product have its own business intelligence/analytical tools?	Yes
Does product support third-party business intelligence/analytical software?	Yes – Vignette, Cognos, Business Objects, Comshare, Hyperion
Special application integration offered/ integration tools supported	Vignette Business Integration Studio provides 70+ standard adaptors for integration to ERP, CRM, SCM, EAI, database, email systems, etc

The knowledge proposition

Nigel Oxbrow of TFPL shows why different types of organisation need to use their corporate knowledge in distinctive ways.

THE KNOWLEDGE economy has become a reality for many organisations and countries.

As Tony Blair said in his keynote address to the CBI Conference last November: “The success of the economy will be determined by knowledge, skills and education.” In other words, the wealth of a nation no longer depends on its ability to convert raw materials into tangible goods, but rather on its ability to develop and harness the abilities and knowledge of its citizens.

Equally, the success of organisations in this economy depends on the ability of their leaders to create a culture and style where knowledge is valued, nurtured and used.

Many organisations have realised significant benefits from developing a knowledge-conscious style of management and from specific knowledge actions. In others, senior managers are still considering how the core principles and practices could deliver business benefit for their full range of stakeholders.

To provide new insights into the dynamics of knowledge-conscious management – and its potential for improving business performance and profitability – 20 leading knowledge practitioners developed a ‘knowledge proposition’ during the sixth annual chief knowledge officers (CKO) summit held in Dublin last October.

This proposition, addressed to chief executives and all business leaders, states that:

Significant additional stakeholder value and competitive advantage will be derived if the expertise, information and ideas of employees, partners and customers are continually developed and used in all business and decision-making processes.

Knowledge impact

Companies fully exploiting their knowledge potential are characterised by:

- Excellent customer understanding.
- Innovation and creativity.
- Better informed decisions.
- Continuous improvement to operational efficiency and effectiveness.
- Astute risk management.

All of which results in improved business performance and profitability.

But because the business priorities of senior management depend on the type of organisation and its primary orientation, different approaches to realising the benefits of the knowledge proposition are needed to reflect these priorities.

Michael Treacy and Fred Wiersema in their book *The Discipline of Market Leaders* suggest that successful companies have a leading capability in one of three primary dimensions – customer intimacy, product leadership

and operational excellence – though they will also ensure that they are competitive in the two other dimensions.

This model can be used to demonstrate the benefits of the knowledge proposition in the context of different priorities (although there are also a number of core knowledge activities that companies find invaluable to achieving their business aims irrespective of their primary orientation, as shown in Figure 1).

Customer intimacy

In his book *Customer Intimacy* (Harper Collins, 1997), Fred Wiersema suggests that: “The hallmarks of intimacy are trust, collaboration and partnering.”

Organisations with a primary orientation towards customer intimacy need to be recognised as trusted advisors for their market. They are looking to extend their market by developing the strength of reputation and trust. Their trading proposition is to exist on their reputation and earn money through trust.

So the types of organisation with a primary focus on customer intimacy would include corporate banking, law firms, consultancies, wealth management, outsourcing companies and all professional advisory organisations.

Such customer intimacy organisations need:

- A passion for understanding the needs, concerns and ambitions of their customers.

- To meet those needs and solve customer problems.
- To ensure that all their staff can see the whole of the relationship with the client.
- To understand how their internal capabilities meet customers' needs.
- A client-centric approach to developing new products and solutions.

Customer intimate organisations see their world in a customer centric way, supported by business processes and functions developed from

their knowledge activities.

The flow of expertise, information and ideas is the essence of the relationship with customers and should be embedded in all actions and communications.

As Wiersema puts it: "All employees should collaborate closely with the customer and be able to respond in flexible ways. Both individual and organisational adaptability are necessary. These require empowering employees to take decisions and make changes

and having open, flexible and co-operative internal processes and operations."

The knowledge value proposition for organisations with this orientation is as follows:

By continuously developing and using expertise, information and ideas, the organisation can build an understanding of the needs, ambitions and concerns of its customers, and develop its internal capabilities to help it anticipate and respond to these

needs, so becoming closer and more trusted advisors.

The knowledge actions and initiatives that will deliver this value proposition include the core actions and range of customer-focused knowledge actions shown in Table 1.

Product leadership

The types of organisations with a primary focus on product leadership would include pharmaceutical R&D, FMCG, telecoms and electronic equipment manufacturers, media and energy-related companies.

Such organisations need to continually enhance their portfolio by seeking to innovate and invent. Their ability to identify, understand and respond to current and future market needs is critical.

Product leadership organisations have to understand and manage their product lifecycle portfolio across the three horizons in which they operate:

- Horizon 1 – Defend and extend current core businesses.
- Horizon 2 – Build the momentum of merging new businesses.
- Horizon 3 – Create options for future businesses.

The focus of their knowledge value proposition and delivery will therefore be determined by the most important horizon for the organisation or teams within it.

The dynamics of Horizon 1 will be similar for those of an organisation striving for operational excellence, whereas those of Horizon 2 will match those for organisations striving for customer intimacy.

Overall, the knowledge value proposition for organisations with an orientation to product leadership is that:

By continuously developing and using expertise, information and ideas, an organisation can develop better insights into market trends, and enable better informed decisions that drive portfolio value.

The knowledge actions and

FIGURE 1: Knowledge conscious management – core knowledge actions

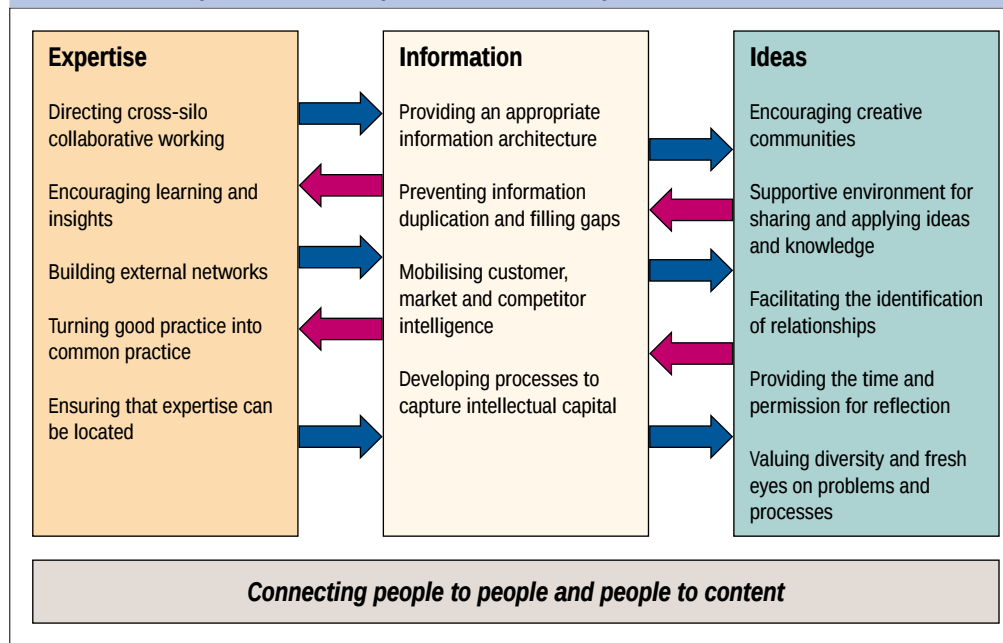


TABLE 1: Knowledge conscious management – customer intimacy

Expertise	Information	Ideas
● Core actions. ● Enabling flexible solutions rather than off-the-shelf products. ● Creating organisational capabilities and structures that are built around clients' needs. ● Training and coaching – how to encourage customer feedback and how to use it. ● Ensuring sales proposals build on previous successful approaches. ● Developing active listening throughout the organisation. ● Identifying and acting on signals. ● Ensuring that staff can readily match customer problems with appropriate services.	● Core actions. ● Maintaining excellent customer relationship management processes. ● Making capabilities, information and insights visible to customers. ● Sharing information with clients. ● Capturing repeatable practices. ● Presenting information about solutions from a client issue viewpoint. ● Providing sector and client information that allows staff to deliver the right solutions for each client.	● Core actions. ● Organising processes for early idea generation and application. ● Identifying and revealing key relationships. ● Creating feedback loops. ● Conducting 'after action' reviews. ● Sharing knowledge with customers and partners. ● Developing processes to support rapid re-use of new solutions for other clients.

TABLE 2: Knowledge conscious management – product leadership

Expertise	Information	Ideas
- Core actions. - Managing decision chain management. - Portfolio management. - Conducting simulation, visualisation and modelling. - Directing knowledge sharing between projects.	- Core actions. - Delivering supply chain intelligence. - Maintaining portfolio intelligence. - Making product information easily available to employees and customers. - Recording decisions and their evidence.	- Core actions - Developing an innovation culture. - Managing the product portfolio. - Stimulating and rewarding new product ideas. - Encouraging off-the-wall thinking.

initiatives that enable the value proposition include the core actions shown in Table 2, and a variety of product-focused knowledge actions.

Strategies in Horizon 3 will vary depending on whether the organisation is a 'shaper' or a 'challenger' in the market sector.

For example, if an organisation is creating a new market (a shaper) it will need to be much more focused on stimulating creativity and innovation through the development and exploitation of ideas, whereas a challenger will be more focused on competing through the application of information and expertise.

Operational excellence

Organisations with a primary orientation towards operational excellence will be continually focused on methods to improve their productivity – through efficient and effective processes and supply chain management – in order to increase speed to market and competitive pricing.

Knowledge processes deliver the agility such organisations require to excel in a market with no product or service differentiation.

The types of organisations with this type of focus would include retail, manufacturing, commodity-based industries, retail banks, energy distributors and government services.

Operational excellence organisations need to continually improve productivity by:

- Driving costs out of the system.
 - Developing more efficient processes.
 - Making most effective use of resources.
 - Enhancing productivity across the input and output chain.
 - Increasing speed to market.
- The knowledge value proposition for these

FIGURE 2: Key factors in process improvement

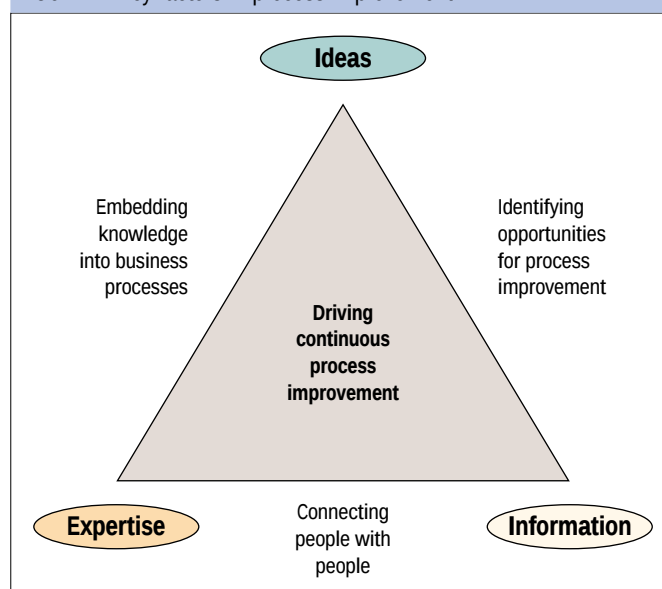


TABLE 3: Knowledge conscious management – operational excellence

Expertise	Information	Ideas
- Core actions. - Ensuring that all expertise is applied to continuous improvement. - Embedding knowledge activities into business processes. - Measuring how good you are, coming up with better ways and making these happen. - Making customer-facing people as smart as possible. - Developing management education and communication to help embed the value of the knowledge.	- Core actions. - Benchmarking. - Capturing and sharing performance data. - Providing research and information to take appropriate actions. - Developing location tools for internal and external expertise to help solve problems. - Creating feedback processes.	- Core actions. - Encouraging new perspectives to be applied to processes and problems. - Coaching people to look at new innovative ways of doing things. - Developing processes for sharing ideas with suppliers and partners. - Ensuring that all parts of the organisation contribute ideas.

organisations is that:

By continuously developing and using expertise, information and ideas an organisation can drive improvement in efficiency, effectiveness and cost reduction. The balance and flow between ideas, expertise and information drives continuous improvement (see Figure 2).

The knowledge initiatives that will deliver the value proposition include the core actions shown in Table 3 and a variety of operational-focused actions.

In summary, knowledge conscious management aligns an organisation's expertise, information and ideas around the critical success factors of the organisation. It also employs an appropriate mix of tools of intervention – people, processes and technology.

The knowledge proposition outlined here suggests a knowledge framework that can help organisations map knowledge-focused activities against their key performance indicators.

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